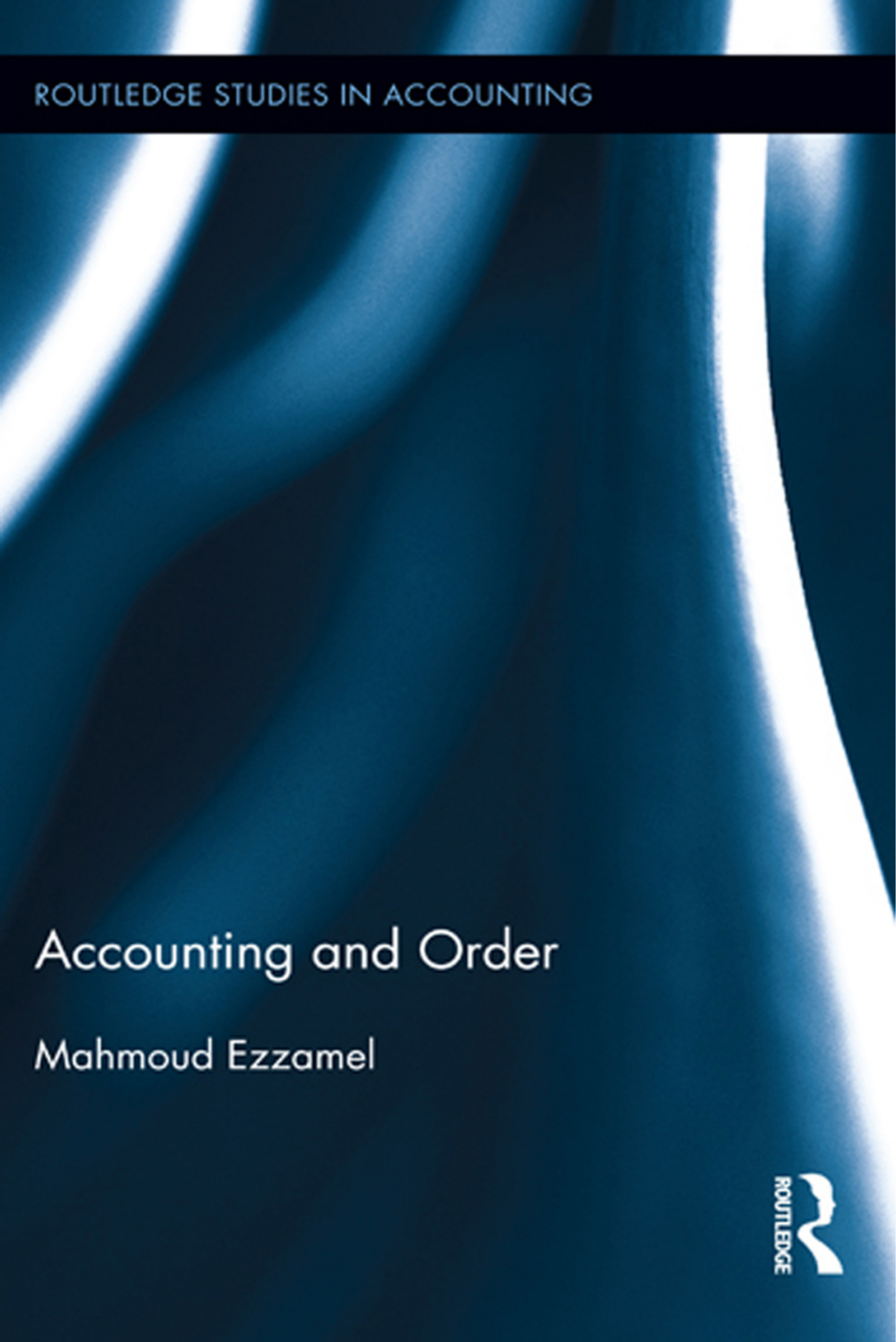

ROUTLEDGE STUDIES IN ACCOUNTING

Accounting and Order

Mahmoud Ezzamel

ROUTLEDGE

This book is a crowning achievement of 20 years of careful and thoughtful scholarship by Mahmoud Ezzamel. It is an amazing and substantive contribution to modern accounting thought. Who would have thought that a book on accounting and Ancient Egypt could be so engaging and relevant? It places history at the centre of attempts to understand contemporary debates about the power and role of accounting in society. Despite what the book argues, this is indeed a fundamental and original contribution to understanding religion, order, performativity and accounting.

David J. Cooper, University of Alberta, Canada

This is a very interesting work, the first of its kind that encompasses ancient Egyptian accounting practices. Mahmoud Ezzamel has provided details and explanations that are fresh and unexpected. The study also provides a modern perspective on the daily life of scribal bureaucrats and their methods of accounting. I wholeheartedly recommend this work for those interested in ancient economics, the bureaucratic superstructure of these societies and especially the careful methods of daily accounting practice.

Anthony Spalinger, University of Auckland, New Zealand

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Accounting and Order

Mahmoud Ezzamel

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For Adam, Nadia and Samia

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Foreword

How did I come to write a book on accounting and order? Rather than this having been a decision based on a *priori* careful identification of a gap in the academic literature, the idea came to me as an outcome of a long engagement with various inscriptions from ancient Egypt. When I first began writing accounting papers based on some of these inscriptions in the late 1980s, the volume of material, my distance from it, and my insufficient familiarity with some of its context led me to write stand-alone papers, each with a particular narrow focus. While I was writing the early drafts of my 2009 paper, published in *Accounting, Organizations and Society*, it began to dawn on me that in virtually all my previous publications on ancient Egypt there was a common underlying theme: that of the relationship between accounting and order. I was rather surprised that this recognition had not struck me earlier, for once I began to rework through many of the ancient Egyptian accounting inscriptions I had studied previously, I found it more convincing to interpret them through the lens of order. Thereafter, things began to fall into place more readily, and previous inscriptions that I had difficulty making sufficient sense of gradually made better sense. My wider reading of non-accounting Egyptian inscriptions, particularly those on myth, cosmology, religion, mathematics, and administration, significantly strengthened my belief that the theme of order was the one that linked all these inscriptions together. While writing the 2009 paper put me on the right theoretical track, it became increasingly clear to me that to theorize the relationship between accounting and order required a whole volume rather than a few papers, hence this book. While I draw heavily on all my previous publications in this area, with the sole exception of the 2009 paper, all the previous material, and a lot more in addition, has been re-analyzed from the perspective of order. Hence, I do not offer this book as a collection of my previously published papers, but rather as a new contribution with a completely new focus, in addition to a lot of new material that I have not published before.

Having decided to embark on this project, I was encouraged to find out that there were no other available books concerned with theorizing the relationship between accounting and order. This represented both an opportunity and a threat. The opportunity was to write a ‘novel’ book on an extremely important topic; and the threat was the fear of producing a volume that adds little to the extant literature. It is therefore with considerable apprehension and trepidation that I offer this volume to the readers.

In writing this book, I have been indebted to many colleagues who I have been extremely fortunate to know. From the accounting, management, and sociology fields, I have had many intellectually stimulating discussions with numerous colleagues and friends, in particular Barbara Adams, Gibson Burrell, David Cooper, Richard John Edwards, Trevor Hopper, Keith Hoskin, Margaret Lamb, Richard Macve, Ken Peasnell, John Roberts, and Keith Robson. Salvador Carmona, Steve Walker, and Hugh Willmott provided continuous support and encouragement, each reading and providing numerous constructive comments on some of the chapters of this book and some of my earlier papers on accounting in ancient Egypt.

Consulting numerous inscriptions in a field as distant from accounting as Egyptology without the help of specialists is fraught with considerable risks and pitfalls. I have been privileged to benefit from the support of many leading Egyptologists: Ben Haring, University of Leiden; Rosalie David, University of Manchester; Vivian Davies, Keeper of the Egyptian antiquities at the British Museum; Joanne Fletcher, freelance Egyptologist; Ken Kitchen, University of Liverpool; Stephen Quirke, University College London; and Anthony Spalinger, University of Auckland. Ben Haring and Stephen Quirke have read drafts of parts of this book and made many insightful comments, but they have also offered invaluable guidance and suggestions concerning ancient Egyptian inscriptions both in terms of providing me with copies of some of them and also by helping me interpret them. I also wish to acknowledge the support I received over the years from library staff at the universities of Leiden, Liverpool, Manchester, and the Petrie Museum, University College, London.

I am also grateful to the anonymous reviewers of all the manuscripts published previously, the anonymous reviewers of the proposal to write this book, and to all those who commented on my previous presentations of parts of this book at the staff seminars at Cardiff Business School, 1989; Department of Accounting and Business Method, University of Edinburgh, 1992 and 1994; Department of Anthropology, University of Manchester, 1999; Department of Sociology, Cardiff University, 2003; Said Business School, University of Oxford, 2005; and Discipline of Accounting, University of Sydney, 2009, as well as those who attended my presentations at the Workshop on Accounting in its Behavioural and Social Context, Madrid, 1991, and the European Accounting Congresses in Venice, 1994; Athens, 2001; Copenhagen, 2002; and Istanbul, 2010; the British Accounting Association Northern Regional Conference, University of Newcastle, 2001; The Politics of Social Economies and Labour Control International Workshop: New Perspectives on Theory and Practice, Seville, 2010; and Research on Accounting and Control Change (RACC) workshop, Nijmegen, 2011.

I wish to register my special gratitude to Cardiff University Business School for awarding me a study leave in the Spring semester of 2009 which allowed me to write substantial parts of the book. I also received excellent secretarial support especially from Angela Castaldo and Julie Mein, and my son Adam has been very helpful in translating some of the French texts into English. I am also grateful for the uninstinting help and support I received from the publishers, in particular Terry Clague, Stacy Noto and Michael Watters.

My greatest indebtedness has to go to my three children, Adam, Nadia, and Samia, to whom this volume is dedicated. They have all offered me unstinting support throughout. Without their constant encouragement, love, and humour it would not have been possible to complete this book.

Most of the book was written in Macclesfield and Cardiff, UK, but some parts were written or revised during research trips to Australia, China, New Zealand, and Spain.

Mahmoud Ezzamel
Cardiff University and IE Business School
Cardiff, 30/04/2011

Dates Covered in the Book*

LATE PREDYNASTIC C.3000

Zekhen ; Na'rmer

EARLY DYNASTIC PERIOD 2920-2575

1st Dynasty 2920-2770
Menes (= 'Aha?) ; Djer ; Wadj;
Den ; 'Adjib; Semerkhet ; Qa'a

2nd Dynasty 2770-2649
Hetepsekhemwy ; Re' neb ;
Ninetjer ; Peribsen ;
Kha' sekhem(wy)

3rd Dynasty 2649-2575
Zanakht (=Nebka ?) 2649-2630
Djoser (Netjerykhet) 2630-2611
Sekhemkhet 2611-2603
Kha'ba 2603-2599
Huni (?) 2599-2575

OLD KINGDOM 2575-2134

4th Dynasty 2575-2465
Snofru 2575-2551
Khufu (Cheops) 2551-2528
Ra'djedef 2528-2520
Khephren (Ra'kha'ef) 2520-2494
Menkaure 2490-2472
(Mycerinus)
Shepseskaf 2472-2467

5th Dynasty 2465-2323
Userkaf 2465-2458
Sahure' 2458-2446
Neferirkare' Kakai 2446-2426
Shepseskare' Ini 2426-2419
Ra'neferef 2419-2416
Neuserre' Izi 2416-2392
Menkauhor 2396-2388
Djedkare ' Izezi 2388-2356
Wenis 2356-2323

6th Dynasty 2323-2150
Teti 2323-2291
Pepy I (Meryre') 2289-2255
Merenre' Nemtyemzaf 2255-2246
Pepy II (Neferkare') 2246-2152

7th/8th Dynasty 2150-2134
Numerous ephemeral kings including Neferkare'

1st Intermediate PERIOD 2134-2040

9th/10th Dynasty 2134-2040
(Herakleopolitan)
Several kings called Khety; Merykare' ; Ity

11th Dynasty (Theban) 2134-2040
Inyotef I (Sehertawy) 2134-2118
Inyotef II (Wah'ankh) 2118-2069
Inyotef III (Nakhtnebtepnufer) 2069-2061
Nebhepetre' Mentuhotpe 2061-2010

MIDDLE KINGDOM 2040-1640

11th Dynasty (All Egypt) 2040-1991
Nebhepetre' Mentuhotpe 2061-2010
S'ankhkare' Mentuhotpe 2010-1998
Nebtawyre' Mentuhotpe 1998-1991

12th Dynasty *1991-1783
Amenemhet I (Sehetepibre') *1991-1962
Senwosret I (Kheperkare') *1971-1926
Amenemhet II (Nubkaure') *1929-1892
Senwosret II (Kha'kheperre') *1897-1878
Senwosret III (Kha'kaure') *1878-1841 ?
Amenemhet III (Nima'atre') 1844-1797
Amenemhet IV (Ma'akherure') 1799-1787
Nefrusobk (Sebekkare')Q 1787-1783

13th Dynasty 1783-after1640
About 70 kings. Better-known ones are listed; the numbers are their positions in the complete list.
Wegaf (Khutawyre') 1 1783-1779
Amenemhet V (Sekhemkare') 4
Harnedjheriotef (Hetepibre') 9
Amenyqemau 11b
Sebekhotpe I (Kh'ankhre') 12 c.1750
Hor (Awibre') 14 ; Amenemhet VII (Sedjefakare') 15 ; Sebekhotpe II (Sekhemre'-khutawy) 16; Khendjer (Userkare') 17
Sebekhotpo III (Sekhemre' - swadjtawy) 21 c.1745
Neferhotep 1 (Kha'sekhemre') 22 c.1741-1730
Sebekhotpe IV (Kha'neferre') 24 c.1730-1720
Sebekhotpe V (Kha'hotepre') 25 c.1720-1715
Aya (Merneferre') 27 c.1704-1690
Mentuemzaf (Djed -'ankhre') 32c
Dedumose II (Djedneferre') 37
Neferhotep III (Sekhemre' s'ankhtawy) 41a

14th Dynasty
A group of minor kings who were probably all contemporary with the 13th or 15th Dynasty

2nd INTERMEDIATE PERIOD 1640-1532

15th Dynasty (Hyksos)
Salitis; Sheshi;
Khian (Swoserenre')
Apophis ('Awoserre' and others) c.1585-1542
Khamudi c.1542-1532

16th Dynasty
Minor Hyksos rulers, contemporary with the 15th Dynasty

17th Dynasty 1640-1550
Numerous Theban kings; numbers give positions in the complete list
Inyotef V (Nubkheperre') 1 c.1640-1635
Sebekemzaf 1 (Sekhemre'-wadjkha'u') 3 ; Nebirey-eraw (Swadjenre') 6 ; Sebekamzaf 11 (Sekhemre'-shedtawy) 10; Ta'o (or Djehuti'o) 1 (Senakhtenre') 13; Ta'o (or Djehuti'o) 11 (Seqenenre') 14
Kamose (Wadjkheperre') 15 c.1555-1550

NEW KINGDOM 1550 -1070

18th Dynasty 1550-1307
('Ahmose (Nebpehtire') 1550-1525
Amenophis 1 (Djeserkare') 1525-1504
Tuthmosis 1 ('Akheperkare') 1504-1492
Tuthmosis 11 ('Akheperenre') 1492-1479
Tuthmosis 111 (Menkheperre') 1479-1425
Hatshepsut (Ma'atkare')Q 1473-1458
Amenophis 11 ('Akheprure') 1427-1401
Tuthmosis 1V (Menkheprure') 1401-1391
Amenophis 111 (Nebma'atre') 1391-1353
Amenophis 1V/Akhenaten (Neferkheprure' wa'enre') 1353-1335
Smenkhkare' ('Ankhkheprure') (= Nefertiti Q?) 1353-1335
Tut'ankhamun (Nebkheprure') 1333-1323
Aya (Kheperkheprure') 1323-1319
Haremhab (Djeserkheprure') 1319-1307

19th Dynasty	**1307-1196**
Ramesses 1	1307-1306
(Menpehtire‘)	
Sethos 1	1306-1290
(Menma‘atre‘)	
Ramesses 11	1290-1224
(Userma‘atre‘ setepenre‘)	
Merneptah	1224-1214
(Baenre‘ hotephirma‘at)	
Sethos 11	1214-1204
(Userkheprure‘ setepenre‘)	
Amenmesse (Menmire‘)	
usurper during reign of Sethos 11	
Siptah	1204-1198
(Akhenre‘ setepenre‘)	
Twosre	1198-1196
(Sitre‘ meritamun) Q	

(Nebma‘atre‘ meryamun)	
Ramesses V11	1143-1136
(Userma‘atre‘ setepenre‘ meryamun)	
Ramesses V111	1136-1133
(Userma‘atre‘ akhenamun)	
Ramesses 1X	1133-1112
(Neferkare‘ setepenre)	
Ramesses X	1112-1100
(Kheperma‘ atre‘setepenre‘)	
Ramesses X1	1100-1070
(Menma‘atre‘ setepenptah)	

20th Dynasty	**1196-1070**
Sethnakhte	1196-1194
(Userkha‘ure‘ meryamun)	
Ramesses 111	1194-1163
(Userma‘atre‘ meryamun)	
Ramesses 1V	1163-1156
(Heqama‘atre‘ setepenarmun‘)	
Ramesses V	1156-1151
(Userma‘atre‘ sekheperenre‘)	
Ramesses V1	1151-1143
(Nebma‘atre‘ meryamun)	
Ramesses V11	1143-1136
(Userma‘atre‘ setepenre‘ meryamun)	
Ramesses V111	1136-1133
(Userma‘atre‘ akhenamun)	
Ramesses 1X	1133-1112
(Neferkare‘ setepenre)	
Ramesses X	1112-1100
(Kheperma‘ atre‘setepenre‘)	
Ramesses X1	1100-1070
(Menma‘atre‘ setepenptah)	

**Source*: J. Malek, Atlas of Ancient Egypt, New York: Facts on File, 1980: 36

Part I

Egypt, Order, and Scribes

1 Prologue

The aim of this book is to theorize the relationship between accounting and order, with a a particular focus on the performative power of accounting. The quest for order has been a major concern for all civilizations ancient and contemporary, and order is a key undercurrent, or as Giddens (1982: 43) suggests 'a catch-phrase', that explicitly or implicitly underpins debate in social theory. We are surrounded by all kinds of manifestations of order. We see order in the cosmos, in how stars and planets that populate the universe seem to be organized in particular ways that fix their relationship to each other. Our lives are ordered by the institutions of the state and government, with their organizing and disciplining proclivities. Institutions of education, work, and war, to name a few, insist on specific ways of organizing space, particular dress codes, configurations of internal organization, rules of attendance and absence, and ways of measuring performance and achievements which order and normalise its members. Our social lives are ordered not only by clock time but also by rules and etiquettes of social engagement. The management of household matters also entail 'putting things in order', be it the way furniture is arranged in different rooms or how the garden is planned and looked after. An assemblage of technologies of which, this book argues, accounting is an important part is typically called upon to construct and sustain these different types of order.

Accounting, with its technologies of inscribing entries, organizing accounts, naming, enumerating, and valuing objects and subjects, is a fundamental means of constructing and underpinning various forms of order. Focusing on the special case of financial accounting, Vollmer (2007: 578) notes "calculative practices, sophisticated models and theories of financial reckoning, number-processing technologies and tools, have turned out to be crucially implicated in the social construction of financial orders, institutions, markets, and realities", and this argument extends to other domains beyond the financial. While several studies in the accounting literature have, either directly or indirectly, engaged with the notion of order and produced some valuable insights, the study of the relationship between accounting and order remains at an embryonic stage. In particular, the notion of order has not been sufficiently articulated or developed conceptually. Linkages made between accounting and order have tended to be too broad to provide an in-depth understanding of how these two constructs are connected. Lacking in the accounting literature is a detailed and compelling explanation of *why* accounting is connected to order, or *how* accounting constitutes order, and *what* specific characteristics accounting has that render it a technology capable of constructing and underpinning order. Moreover, there is little or no engagement with the question of how accounting can function as a performative ritual that produces and reaffirms order. Quite simply, the relationship between accounting and order in the extant literature remains underdeveloped. This gap is a major motivation for writing this book.

Drawing on ancient Egyptian inscriptions (where the cosmos and the worldly are strongly linked), this book intends to demonstrate how accounting is intertwined with order. Rather than attempt to develop an overarching theory of accounting as an ordering technology, the approach taken in this book is thematic theorizing. This will involve identifying a number of themes to which accounting and order can be connected and theorizing each theme. In seeking to achieve this aim, the book explores the following interconnected themes. First, how accounting legitimizes and preserves the *status quo* in society by constructing, reproducing, and sustaining order even though the precise form that order takes might be different over time and across space. Second, how accounting functions as an archive, a connective memory, a performative ritual and myth that constructs order in the cosmos, on earth, and in the netherworld. Third, how accounting inscriptions function as sign systems that produce and underpin order. Fourth, how accounting is connected to conceptions of sacred and secular time and space, and how this is linked to order. Fifth, how accounting functions as a mediating institution between gods, kings, and the populace by emphasizing restitution and reciprocity in religious, social, political, and economic spheres. Sixth, given that the creation and affirmation of order inevitably entails an exercise in violence, how do accounting technologies function as mechanisms of violence.

BEGINNING AND AMBITION?

> "The beginning of a narrative, of a discourse, of a text, is an extremely sensitive point—*where to begin?* The *said* must be torn from the *not-said*, whence a whole rhetoric of beginning *markers*." (Barthes, 1977: 129, original emphases)

> "O that I might find unknown phrases, strange expressions, new speech not yet uttered, free of repetitions, not sayings such as the ancestors used." (The Author of the *Lamentations of Khakheperreseneb*, translated by Assmann, 2002: 171)

In writing a book, there are always the questions of how and where to begin in addition to signalling the ambition intended to be realised by writing. As Barthes' quote suggests, to begin is to make a choice of what to say and what to leave unsaid. While it may be more or less possible to assess the impact of what is said on a work, the author will never know exactly what impact the 'not said' has on a book he or she has written, and will likely have to be content with a feeling of remorse as to what could have been. The struggle to decide where to begin, what should be said, and what should be left unsaid betrays an immense sense of *responsibility* born out of an appreciation of the potent power of writing, for readers as well as for authors. For as Barthes (1977: 142) notes, "writing is the destruction of every voice, of every point of origin. Writing is that neutral, composite, oblique space where our subject slips away, the negative where all identity is lost, starting with the very identity of the body writing." This important caveat should serve as a warning that in writing a book such as this, others might have chosen different beginnings and/or elected to say things not said here.

To mark the ambition of this book, this section is prefaced with a quote from an ancient Egyptian scribe which expresses his desire to be original by producing rather than re-producing. Seemingly for this scribe, originality must be free of repetition and can be achieved only by authoring 'new speech not yet uttered'. This demanding ambition is thought provoking.

First, idealistic as it may be, the quote nonetheless embodies an aspiration of producing scholarly work. Whether 'originality' can ever be free of repetition is at this stage a moot point. Second, the quote demonstrates that the demands posed by scholarship have hardly changed over millennia; originality is a long celebrated quality of human experience rather than the preserve of modern times. The novelist Hemingway (Phillips, 1984: 22) underscores the importance of originality; when writing to a friend in 1932 he states "the one thing that I will not do is repeat myself on anything". Third, the ambition of this scribe is distinguished not only by being ancient, but also by coming from *outside* the seemingly dominant Western cannons of scholarship. This reinforces the view that claims to knowledge creation and scholarly achievements never completely reside within the boundaries of a particular culture. For example, in the field of literary criticism, Said (1991) has lamented Eurocentric Western styles of scholarship because they "exclude more than they include" (p. 21) and "reinforce(s) the known at the expense of the knowable" (p. 23). Such concern with inclusivity that Said so clearly adumbrates is no less important in the case of accounting academia. One of the ambitions of this book is to bring to light some of the original and thought-provoking ideas of the ancient Egyptians in the hope that this will enrich the project of understanding and theorizing accounting with insights coming from outside the dominant Western scholarship.

This last point bears closer scrutiny and elaboration. The case of ancient Egypt is most intriguing in terms of its uptake in Western scholarship. A brilliant civilization stretching over three millennia is frequently engaged by Western scholars as the exotic Other that helps define and confirm Western identity as part of the Orientalism project (Said, 1978). Alternatively, the history of ancient Egypt is inscribed in Western annals of Egyptology that populate library shelves in a few specialist departments as a remote and antiquated history that is marginal to contemporary thought and the history of ideas. Even in the few occasions when some Egyptian texts are analyzed by non-Egyptologists, they are typically drawn from secondary sources thereby denying original sources the right to speak for themselves.

To clarify, the concern in writing this book is not to seek to replace a Eurocentric claim to knowledge with an Egyptian-centric alternative. Nor is it to show that some themes in Western knowledge, for example, originality, have been invented first in another culture. Rather, the aim is to destabilize the perception that a particular culture is the fountain of worthwhile knowledge to the exclusion or marginalization of others. Instead of being interested in the origins of ideas, the concern here is to articulate the socio-political, economic, and religious contexts within which accounting inscriptions emerge and how they can be fruitfully theorized. History, whether remote or recent, matters and has a significant import for theorizing accounting. Ibn Khaldun (1379/1991) has suggested that history is concerned with knowledge of human social organization which he equates with civilization. For him, history is a fundamental and noble discipline or art that should be taken seriously. More recently, Barthes (1973: 101) has sought to reverse the traditional emphasis that places “Nature at the bottom of history” to one where Nature itself is understood as historical. For Barthes, history is fundamental to the study of the ‘human condition’. This interest in history has spread to other cognate disciplines such as economics, management, sociology, and literary theory (see Said, 1991: 167–168). Despite this, much accounting scholarship proceeds as if history matters little. By drawing upon ancient historical material to demonstrate its immediacy and relevance to the theorizing of accounting, it is hoped that this book adds to the work of scholars who seek to position history at the centre of intellectual debates in accounting.

Before providing a synthesis of the key arguments of this book, a number of issues relating to method are addressed.

METHOD

In studying ancient Egyptian inscriptions, a number of pertinent problems arise concerning: remoteness/distance of author from source material; translation; source lacunae; textuality and its connection to practice; selection of inscriptions for analysis; and theory engagement/theorizing.

Distance of Author from Source Material

At least three dimensions of distance can be identified in the context of the ancient Egyptian inscriptions examined in this book. First, the temporal remoteness of the original sources. Second, the geographical distance between the location of the source material and the place where an author writes. Third, the cultural distance separating an author from the context of the source material.

Time remoteness of the source material poses serious challenges to a contemporary writer: in offering an account of a remote history how does one connect with its sources? This book is not concerned to establish a linear trajectory of development over time leading to the present, but rather to unearth and articulate the contexts in which specific accounting inscriptions emerged and to examine their connection to order. But how does an author do this? A contemporary writer is located outside the time and context of the remote past, and is left typically only with a set of incomplete inscriptions or texts to work with. Egyptologists or archaeologists have in addition to inscriptions physical artifacts in the form of ancient sites, their strata, and findings including human remains to base their work on which is likely to compensate partly for their temporal remoteness from the histories they write. However, this wealth of information is hardly, if ever, exploited by or accessible to accounting researchers and it is important that this shortcoming is made clear from the outset. Compared to an Egyptologist or an archaeologist, an author writing on ancient accounting history will clearly miss out on much useful material which could yield a more refined understanding of how a society functioned and how it was organized. At the extreme, this could lead to a disembedding of the study of ancient accounting inscriptions from the contexts that give them meaning and which they in turn impact. One way to ameliorate this limitation is to consult a much broader set of texts than those specifically related to accounting. To address this problem in writing this book, translations of the originals of many ancient Egyptian inscriptions that have survived, including those dealing with myths, cosmology, wisdom, stories, mathematics, engineering, architecture, religion, and medicine were consulted. Further, a number of the locations to which many of the texts analyzed in this book relate were visited by the author, and several artistic representations have been examined with some reproduced in the book.

Addressing the challenges posed by geographical distance can be extremely demanding, particularly in the case of ancient Egypt. Not only are the sites and many objects located in Egypt distant for someone writing in the UK, but also an enormous number of manuscripts and artifacts are scattered around the world. As a result of this dispersion, much of the relevant source material has been translated by Egyptologists from ancient Egyptian into several contemporary European languages, especially English, French, German, and Italian, and many of these translations have been consulted by the present author.

In writing a book such as this, cultural distance is a major concern as lack of cultural appreciation can compromise the analysis. In part, as an Egyptian who lived in Egypt until 1970 I am writing as an ´internal´ and in part, because I left Egypt in 1970 to live and work in the UK, I am also writing as an `external´, so this book is likely to exhibit some of the attributes of both modes of writing. It is also hoped that the extensive consulting of non-accounting inscriptions from ancient Egypt has further helped the present author in managing the problem of cultural distance.

Translation

There are still many texts that have not yet been translated from ancient Egyptian into contemporary European languages, and the only way to access them is via knowledge of ancient Egyptian, a daunting task and one not attempted here. As to the large number of texts that have been translated into European languages, there is the familiar problem of how close are these translations to the original texts, especially given the temporal remoteness of ancient Egyptian inscriptions. To what extent, for example, can we sensibly describe exchange of goods for a price as being equivalent to ‘market exchange’? How legitimate is it to speak of an ancient economy as a means of describing the creation, accumulation, and distribution of ancient ‘wealth’? Are we entitled to use terms such as ‘tax’ to describe levies imposed by an ancient state on its subjects? Does the term ‘accounting’ have a meaning when used in the context of the remote past similar to how it is understood today?

The problem of translation haunts all students of history. Moreover, the lack of an appropriate vocabulary and means of accessing and writing about historical material is a serious handicap. In considering the study of historical experience in literary theory, Said (1991: 169) argues:

> “cultural, theoretical, or critical discourse today provides me with no vocabulary, no conceptual or documentary language, much less a concrete body of specific analyses, to make myself clear. For the most part our critical ethos is formed by a pernicious analytic of blind demarcation by which, for example, imagination is separated from thought, culture from power, history from form, texts from everything that is *hors texte*, and so forth.”

All the limitations spelt out by Said ring true in the study of ancient Egyptian inscriptions. Moreover, there is the concern with the constitutive power of language and its effect on forging particular constructions of the remote past; researchers do not reproduce the past as much as create it via the language they employ. Previts and Bricker (1994) use the notion of “presentmindness” to refer to this concern: the use of present-day notions to write about the past produces understandings that could be significantly different from those held by ancient peoples.

Notwithstanding these challenges, it is argued in this book that there is much scope for carefully adapting notions such as 'state', 'economy', 'markets', and 'accounting' to the ancient Egyptian context. For many, this is a controversial issue given the considerable debate on the extent to which such terms can be extended beyond the specific contexts in which they were first developed. However, much depends on how strict one wishes to be in delineating the conditions that must be met in order for the use of contemporary terms to be deemed acceptable. For example, the term 'state' can be applied to ancient Egypt as long as it implies three conditions: a geographical area with a population and a visible authority (see Eisenstadt, 1969; Ball, 1995; Barry, 2000; Warburton, 1997), all having been met since Egypt's formation as a state (Dynasty zero) in about 3200 Before the Common Era, BCE (Davies and Friedman, 1998).

On 'economy', Janssen (1975: 539) warns that: "the distance between ancient Egyptian and modern European economies is so wide that it is useful to stress and perhaps even overstress it in order to avoid a too modern conception of economic life in ancient Egypt." Similarly, Finley argues that the ancients did not have a concept similar to what is nowadays called "the economy":

> [The ancients] lacked the concept of an "economy", and *a fortiori*, they lacked the conceptual elements which together constitute what we call "the economy". Of course they farmed, traded, manufactured, mined, taxed, coined, deposited, and loaned money, made profits or failed in their enterprises. And they discussed these activities in their talk and their writing. What they did not do, however, was to combine these particular activities conceptually into a unit, in Parsonian terms into "a differentiated sub-system of society" Finley (1992: 21, original emphasis).

There is no evidence that the ancient Egyptians developed a conceptual construct similar to what we now call 'the economy', and care should be exercised when interpreting ancient inscriptions to avoid labouring them with meanings the ancients would not have recognized. This concern, however, should not hamper efforts to study ancient economic and social domains. There is no reason why the word 'economy' and similar terms could not be used in an ancient context, as long as their meanings are differentiated from those circulating in contemporary societies. Hence, we need to move away from misplaced concern with what constitutes historical "proof" (Finley, 1992: 25) and acknowledge that there is no such a thing as a concrete history "out there" to be captured in its reality, but rather in writing history we "construct history" (Ezzamel and Willmott, 2004; Carmona and Ezzamel, 2008). This book offers the author's account of the roles of accounting in ancient Egypt based on his reconstruction of how the texts he examined construct this history. This does not mean that 'anything goes'; rather that any construction of the roles of accounting in ancient Egypt is rendered intelligible and meaningful at least in the epistemic culture (Knorr Cetina, 1999) of discursive accounting academia where shared meanings are negotiated. For Knorr Cetina (ibid: 1, emphasis in original), epistemic cultures are "those amalgams of arrangements and mechanisms, which, in a given field, make up *how we know what we know*". Moreover, as indicated later, texts are worldly (Said, 1991) and by being 'in the world' they place constraints on how an author writes about them.

Source Lacunae

For much accounting history research the archive represents the primary data source, and the quality of the archive and the archivist have a major impact on the quality of published work. The archive is usually located in well known spaces, such as a special building or a library. One pertinent question in this respect is: Is there an equivalent to this concept of 'archive' in the case of ancient Egyptian inscriptions which have been recorded on a variety of inscription devices: the walls of monuments and private tombs, the inside of coffins, the surface of papyrus and pottery sherds, all scattered around the world? Unless a more expansive notion of 'archive' is adopted when dealing with remote history, there may be a preference instead to speak of historical material. In this book, the notion of 'archive' is used not to designate a physical space where inscription devices are kept, but rather to refer to another meaning of an 'archive', one which focuses on the inscriptions themselves and on their contents.

An additional source of complexity relates to the varying surfaces of the inscription devices on which ancient Egyptian texts were inscribed: as suggested above stone, ostraca (limestone and pottery sherds), and papyri. There appears to be some sort of specialization in the use of surfaces: literary, legal, and commercial matters were inscribed onto papyri and ostraca, whereas monumental and religious texts were inscribed on stone. Any serious attempt to study ancient Egyptian accounting inscriptions requires a detailed consultation of these sources. Consequently, the ancient Egyptian 'archive' or material is rather complex, in many cases inaccessible except to experts, hence it is inevitable for a writer to be selective; the question of course is *how selective*? This is an issue that will become clearer throughout the remainder of the book. Overall, not only were samples of inscriptions that seem to be very similar to numerous others consulted, but also unique, one-off inscriptions were analyzed. In doing so it is hoped that much of the variety and richness of the inscriptions available for inspection has been illuminated in this book.

There are considerable gaps in surviving ancient Egyptian inscriptions which create a discontinuity that bedevils researchers. Many of the texts inscribed on seemingly 'permanent' writing surfaces, such as stones, have been lost forever because of acts of nature (e.g., floods), actions of the ancients (e.g., revenge acts to erase the deeds of previous rulers), or behaviour of modern people (e.g., poor preservation, vandalism). Thus, only a fraction of the original material has survived to the present time.

This problem is compounded further because of the significant damage that occurred to much of the surviving material.

The choice is either we attempt to forge accounts of such histories, no matter how incomplete, or do nothing. Finley (1992: 25) has lamented ancient historians who rely on anecdotes, calling for "abandoning the anecdotal technique of dredging up an example or two as if that constituted proof." Notwithstanding this warning, the precious small percentage of the ancient Egyptian inscriptions that has survived still reveals a measure of the brilliant achievements and original thinking of a remarkable civilization. Thus the intention here is not to shy away from using anecdotes whenever they are judged to be relevant to the development of the argument.

Inscriptions and Practice

This book is concerned with theorizing ancient Egyptian accounting *inscriptions* because all the evidence examined is in the form of texts that have been written by ancient Egyptian scribes. This raises two pertinent issues. First, how closely can practice and text be connected? Second, what implications do inscriptions as texts have for the writing of this book?

The first issue concerning the closeness of texts to practice is a tricky one to address. First, there is the question of what 'practice' actually means. Does practice simply mean only what people do? So, for example, in talking about accounting practice do we mean what senior managers and/or organizational members at lower levels of the organization do? Or does practice also include what people say? Or should we opt for a much broader conceptualization of practice so that it includes acts of accessing, classifying, interpreting, and analyzing inscriptions? These issues are certainly not straightforward and different scholars have different ways of addressing them.

Moreover, even if an overarching definition of practice can be agreed upon, for many commentators a key issue is: how do we know that in examining accounting inscriptions we are analyzing practice? This is complicated further by the widespread understanding that ancient Egyptian texts have tended to produce idealistic accounts that inscribed a formal view of an ordered, perfect world instead of revealing imperfections in practice (see Kemp, 1989). In contrast to this, a close inspection of ancient Egyptian texts, for example, in literature, art, and accounting, suggests that despite pressure for conformity to a formal view, there are numerous examples of deviation from canonized and idealistic re-presentations of an ordered society that are typically promoted by political and administrative authority. These deviations are crucial in that they offer complementary accounts to those of the formal texts of how the ancient Egyptians inscribed their world. Moreover, Bourdieu (1977) draws a distinction between *practice* and *discourse about practice*. Bourdieu's (ibid: 18, original emphases) key point underscores the compounding effects of accounts of practice offered by insiders or outsiders:

> "Invited by the anthropologist's questioning to effect a reflexive and quasi-theoretical return on to his own practice, the best-informed informant produces a *discourse which compounds two opposing systems of lacunae*. In so far as it is a *discourse of familiarity*, it leaves unsaid all that goes without saying: the informant's remarks . . . are inevitably subject to the censorship inherent in their habitus. . . . In so far as it is an *outsider-oriented discourse* it tends to exclude all direct reference to particular cases (that is, virtually all information directly attached to *proper names* evoking and summarizing a whole system of previous information)."

These compounding effects, using Bourdieu's terms, are likely to create a significant gap between the informant's experience of practice and the discourse that s/he produces of practice. Rather than getting too involved in debating these issues, important as they are, the intention in this book is to side-step the debate on what 'practice' means by emphasizing accounting as a form of inscriptions and textuality. This may be especially pertinent in situations such as those encountered in writing this book whereby its writing depends on material entirely written by others.

Textuality has two important dimensions which impact the arguments in this book: first the textuality of the material the book draws upon and, second, the textuality of this book as a product of writing. As Said (1991: 4) argues, "texts are worldly, to some degree they are events, and, even when they appear to deny it, they are nevertheless a part of the social world, human life, and of course the historical moments in which they are located and interpreted." No matter how a text is presented by an author, critic or reader, it is worldly: "texts have ways of existing that even in their most rarefied form are always enmeshed in circumstance, time, place, and society, in short, they are in the world, and hence worldly" (ibid: 35). The worldliness of the text is a particularly significant point, for it grounds the text in relation to the world that it helps to construct. Said is quite insistent on this, for without this worldly connection texts become almost meaningless: "The realities of power and authority—as well as the resistances offered by men, women, and social movements to institutions, authorities, and orthodoxies—are the realities that make texts possible, that deliver them to their readers, that solicit the attention of critics" (ibid: 5), and later (ibid: 33, original emphasis) he states "a text in its actually *being* a text is a being in the world". Every text, therefore, is an occasion whereby human life in one form or another is engaged, in a specific place, at a particular point in time, and in relation to unique circumstances. This spatial-temporal-contextual nexus of a text does not only connect it to the world, it also acts as a constraint on how the reader might read, interpret and attach meaning to it.

Texts have to be taken seriously, not only because they are worldly, but also because, in the main, they are *intentional*. It has been suggested that a written text is a systematic conversion of the power relationship between controller and controlled into written words (Foucault, 1972); yet writing is also a means of disguising the materiality of power relations. Texts make up what Foucault calls the 'archival facts' with the archive being understood as the text's social discursive presence in the world (Said, 1991: 51).

In this book, ancient Egyptian inscriptions are taken as intentional, worldly statements, as objects that function as systematic conversions of power relations but also as means of disguising the materiality of such power relations entailing individuals, institutions, and events. In analyzing these texts, inscriptions, or archival material, what does the role of an author or critic produce, if anything? What is the status of the intentional text produced in the form of this book? At one level, it could be argued that what is produced is a set of repetitions of past texts significantly constrained by the very materiality and worldliness of the ancient inscriptions examined. An alternative is to argue that, despite the restrictions, writing about texts that are already in the world still produces value through disciplined and scholarly judgment (see, for example, Lukacs, 1971). Said (1991: 53, original emphasis) goes even further: "critics create not only the values by which art is judged and understood, but they embody in writing those processes and actual conditions in the *present* by means of which art and writing bear significance." By uncovering, exposing, and articulating meanings in previous texts, *value* is produced, and by embodying previous texts in the processes and conditions of the present, the immediacy of previous texts is established. The aim is for this book to accomplish this twin ambition. This connects with the question of originality raised at the beginning of this chapter which will be addressed later in a little more detail.

Selection of Inscriptions for Analysis

As indicated, selectivity of ancient Egyptian source material was unavoidable, and this choice was guided by several criteria. First, inscriptions concerning order and accounting pertaining to the three realms of the ancient Egyptian universe (the cosmos, earth, and the netherworld) were examined. Second, in the case of material relating to the activities of the living (earth) or the dead (netherworld), wherever possible inscriptions that were in near perfect condition or suffered the least damage were chosen so that their content was intelligible. Third, whenever inscriptions of the same type were plentiful a sample that was thought to cover most of the detail and richness of the whole set was selected. Fourth, unique inscriptions that connected accounting to order were included. Fifth, important images, or works of art, of relevance to the thesis of the book were mobilized. Translations of original ancient Egyptian inscriptions were consulted extensively, aided by secondary sources in the form of numerous scholarly articles and books. However, with every exercise in selectivity of source material there always lurks the danger of oversight and what was not-said (Barthes, 1977), but given the sampling approach it is hoped that this risk has been minimized.

Theory Engagement/Theorizing

It is not the intention of this book to offer a definitive theoretical framing to guide the argument. First, to work with a specific theoretical framing is likely to result in exclusion of ideas, phenomena, or texts that do not fit within the chosen framework. Second, because of the nature and remoteness of the historical inscriptions inspected, full reliance upon one theoretical framing may not always be insightful and could at times lead to misleading inferences. Third, it is intended to give prominence to the ancient inscriptions and to theorize them from within as much as from without. The aspiration therefore is to avoid privileging a specific theory or set of theoretical ideas over others. Indeed, the desire is to concentrate as much as possible on drawing both method and methodology out of the ancient inscriptions examined. This should not be taken to signal theoretical indecisiveness, confusion, relativity, or opportunism.

It is important to position this approach in relation to the debate in the literature on how ancient historical material could be theorized. Silver (1985), Kemp (1989), and Warburton (1997) have each invoked rational economic ideas in interpreting ancient Egyptian records in the belief that the ancient Egyptians displayed many of the rational attributes ascribed by modern economic theories to humans. In contrast, Polanyi (1977), and his followers (e.g., Dalton, 1971) have suggested that ancient civilizations should be studied using a lens different from that of modern economies; in particular economic anthropology has been identified as the appropriate means of studying ancient peoples. To clarify, traditional economic thinking views humans as engaged in essentially rational economizing behaviour based on an efficient market allocation system that motivates people to act accordingly. In contrast, economic anthropology starts from the position that human desire for material gain leads to actions seeking to achieve this aim, but such actions are constrained by the context of their specific culture. As argued later in the book, allocation mechanisms other than those implied by market distribution play a significant role in ancient societies. This alternative approach has found favour with a number of Egyptologists (e.g., Janssen, 1975a; Bleiberg, 1996) but it also has its critics. The approach followed in this book is one of sensitive theorizing of the ancient Egyptian inscriptions within their religious, socio-political, economic, and cultural settings, and hence it departs from mainstream rational analysis. This approach is more sympathetic to the economic anthropology school, but it is not equivalent to it because it does not focus only on the 'economic' but considers also wider anthropological dimensions.

ON ORIGINALITY AND REPETITION

This chapter is prefaced with a quote from an ancient Egyptian scribe concerning his ambition to be original, and the discussion in the preceding section alluded to what a writer or a critic can bring to texts by way of adding value and also immediacy and connectivity to the present. It could be argued that these qualities that are brought to existing texts by a writer or a critic are the stuff from which originality is made. However, originality is more complex than this.

At first sight, the terms 'original' and 'repetition' seem to be worlds apart; the first signifying seemingly positive connotations such as invention, creation, and novelty, while the second invoking pejorative qualities such as imitation, stating what is known, and recycling, qualities that Ibn Khaldun (1379/1991) argues are prevalent in human history. Barthes (1977: 146) argues that a text is "a multi-dimensional space in which a variety of writings, none of them original, blend and clash. The text is a tissue of quotations drawn from innumerable centres of culture." Yet, on closer inspection, repetition and originality are connected not only in being perceived as binary oppositions with each articulating the definition of the other, but also in that originality entails elements of repetition. Moreover, the endeavour, style, and self-criticism of the writer play a major part in making repetition worthwhile.

To return to the issue of definition, what does originality in the context of writing a work such as this mean? Originality is a vague concept; it can be taken to mean violent substitution or displacement of one thing by another: "Most of us do no more than perceive originality as a quality of our attention, which is enlivened or shocked by an experience that pushes all others into second place or out of sight. Because this sort of displacement is relatively common, originality might just as well be a name for endless, perhaps occasionally violent, substitution of one experience for another" (Said, 1991: 129). Thus, the statement made by the ancient scribe on originality can be interpreted to entail an aspiration for a violent substitution and displacement of the ideas of his ancestors with his own. He is urgently searching for "unknown phrases, strange expressions, new speech not yet uttered, free of repetition" that would displace what his ancestors said before him. The scribe is searching for originality in the form of a radical discontinuity, and a clean break from the past, as he is keen to distinguish what he writes from what his ancestors have said or written. Yet recognizing what is known and what is novel is not straightforward, and such recognition certainly entails an element of human judgment that is susceptible to generalization via shared experience within a specific discursive field or epistemic culture:

> "what defines something as new is something defining everything else as not-new, and in neither case is one individual capable of making such judgments; therefore everyone working in a field, by a process of acculturation and professionalization, accepts certain guild standards by which the new and not-new are recognizable. These standards are far from absolute of course, just as they are far from being fully conscious." (Said, 1991: 181)

Further, Said (ibid: 129) wishes to rescue originality from its apparent conceptualization as a form of violence, with original writing substituting and displacing other writings, by suggesting a more comprehensive articulation of what original writing entails, of which violence is only a part:

> "we can study writing itself as an activity in which identifiable forces are in play, some being combined, others being displaced, still others being returned. Therefore the value of writing as an object of analysis is that it makes more precise the almost anonymous alternation of presence and absence we impressionistically and perceptually associate with originality."

Instead of an all out violent substitution and displacement of what is already there, original writing may displace, but also combine and bring back present and past themes and ideas. Writing is a creative exercise through which originality becomes manifest in the emergence of a new melting pot that is made of the 'new' and the 'old'. If creative and original writing admits the possibility of not only the 'new' but also combining some of what is already there and further bringing back things that have been discarded, then repetition lies at the heart of originality. Foucault (1967) has already anticipated this argument when he notes that the exclusion of recurrent circumstances renders impossible true originality, and the possibility of history and order; for else what could history and order be if continuity and recurrency (repetition as return) are denied?

This inevitable interplay and mutual dependence between originality and repetition is neatly summed up by Said (1991: 135): "the best way to consider originality is to look not for first instances of phenomenon, but rather to see duplication, parallelism, symmetry, parody, repetition, echoes of it". To establish and ascertain an element of originality or novelty, repetition is necessary; for only through repetition can a writer recall the past in the effort to find and distinguish the new. It is through engaging repetition that difference or originality is produced. For repetition should never be understood as meaning only cataloguing, assembling and classifying recurrent phenomena. Importantly, it also means mediation, reassembling, and reshaping, thereby leading to the emergence of the original.

This book is therefore a set of inevitable repetitions, but it is hoped that these repetitions go beyond mere cataloguing, assembling, and classifying recurrent phenomena concerning accounting in ancient Egypt, valuable as they may be, by mediating, reassembling, and shaping what is catalogued, assembled, and classified. Specifically, the aspiration is for the book to contribute to how the theorizing of accounting might be further enriched and, perhaps more importantly, to open up new possibilities for future research born out of the richness and diversity of ancient Egyptian inscriptions and their unique contexts.

A SYNTHESIS OF THE ARGUMENT

As indicated, the main purpose of this book is to theorize the role of accounting inscriptions in producing and sustaining order. In the case of ancient Egypt, the world consisted of three realms: the cosmos, the earth, and the netherworld, and the inscriptions examined in this book pertain to these three domains. The book is divided into five parts. Part I (of which this prologue is Chapter 1) is intended to provide a background concerning relevant aspects of ancient Egypt, the notion of order, and the scribes who inscribed the material analyzed in this book.

Because familiarity with ancient Egyptian history could not be assumed among all readers, and because any interpretation of accounting inscriptions can only be rendered meaningful by reference to their historical contexts, Chapter 2 provides a brief account of ancient Egyptian history concentrating on the periods relevant to the book. Referring to the major episodes in ancient Egyptian history, Chapter 2 concentrates on royal power as invested in kingship, government, and administrative machinery, order, and social justice as reflected in the concept of *Maat*, and the roles of the temples and the economy. The discussion shows how kingship was central to maintaining order, and how kingship power was at its zenith during the Old Kingdom (2575–2134 BCE) with greater measures of decentralization introduced during the Middle (2040–1640 BCE) and New (1550–1070 BCE) Kingdoms. The concern is to show how the institutions of kingship, government, administration, and temple changed over this long history of ancient Egypt, and how they sought to order relationships and lives. Some space is also devoted to discussing the rise of the scribes, their education and training, and also ancient accounting as their stock in trade.

Part II consists of three chapters which examine the relationship between accounting, order, and gods. It engages with the theoretical debates on order, accounting, rituals, and performativity, and begins to interrogate ancient Egyptian inscriptions.

Chapter 3 provides a background for much of the theoretical discussion that follows in the remaining chapters. It contrasts collectivist and voluntarist approaches to order and argues that rather than being one or the other order has both collectivist and voluntarist dimensions, and that every restoration and perpetuation of order entails some measure of violence. It also develops the notion that accounting is a performative ritual, and that accountants as the custodians of bookkeeping tradition were entrusted by institutions and individuals the task of ensuring that order prevails through the conduct of repeated rituals of accounting inscriptions. As the rites of inscribing accounting entries become taken-for-granted (Meyer and Rowan, 1977), accounting becomes institutionalized. Such taken-for-grantedness mythologizes accounting: accounting becomes so natural a phenomenon that it is elevated to the level of myth that embodies the ideals of institutions and society (Barthes, 1973). Accounting thus ritualized and mythologized constructs an orderly world that begins in accounting books and extends beyond them into society by creating a belief that the representation of orderly bookkeeping mirrors order and coherence in the world. Accounting inscriptions are conceived as performative, canonized cultural texts (Assmann, 2006), a conscious archive that serves as a store of knowledge and as a collective memory of society.

Chapter 4 examines three ancient Egyptian myths and their connections to accounting and order: Osiris, the Contendings of Horus and Seth, and the Day of Judgment. The myth of Osiris, the then legitimate eternal godly king of Egypt, entails an economy of restitution that is based on counting. Osiris is killed twice by his jealous brother Seth, who in the second killing dis-members Osiris' body into forty-two parts and buries each part in a different location in the land of Egypt. Isis, Osiris's wife (and sister), uncovers all the parts of the body and re-assembles them together thereby initiating an early counting and accounting for the body which signals a return to the order violated by Osiris' murder. In the Contendings of Horus and Seth, Horus avenges the death of his father Osiris by defeating Seth, and reclaims the crown of Egypt as the legitimate heir of Osiris, thereby reaffirming return to order. In combat, one of the Eyes of Horus is shattered, and Djhuty, the god of writing, record keeping, and time, and the patron god of the scribes, collects and counts the shattered parts of the Eye of Horus each being accorded a particular fractional value, and restores the Eye to its previous state allowing Horus to regain his vision, and hence signals a return to order. In this counting and accounting for the Eye of Horus, Djhuty produces what becomes known as the Horus Eye fractions, a system that made it possible for scribes to divide objects into small fractions to ensure finely tuned reciprocity in all kinds of accountings such as object exchange and the determination of rations. In the myth of the Day of Judgment, Djhuty presides over the weighing of the deeds of the deceased against a feather (*Maat*), the pristine condition of the world that signifies order, justice, and truth. Djhuty holds his book, recording the fate of the deceased, ushering a kind of divine accounting in the afterlife. In all three myths, the connections between counting, accounting, order, and performativity are powerful. Connections are also made between sacred time and space, and how accounting technologies function as temporal and spatial ordering devices.

Chapter 5 deals with accounting for offerings made by the Pharaohs to the gods of ancient Egypt. Ancient Egyptian inscriptions suggest a kind of 'moral calculus', where the gods protected the Egyptian world in return of the Pharaohs providing '*valuable*' offerings to the gods; this form of moral calculus, or reciprocity, as an expression of *Maat* or order, was constructed and rendered visible via accounting inscriptions. Such reciprocity was invested in the belief that the more the Pharaoh gave, the more satisfied the gods were, the more they preserved cosmic and worldly order. Accounting for godly offerings entailed enumeration by quantity and valuation via monies of account which made it possible for the *value and plenitude* of offerings to be quantified and visualized. These accounting inscriptions provided an indelible, permanent record of offerings for all to see, gods and humans alike. For the populace, this order was invested not only in the gods but also importantly in kingship, as reflected in the presumed ability of the Pharaoh as sovereign to preserve peace and security and to uphold *Maat* as order.

Such godly order instilled an ethic of coherence and balance that connected with the view of cosmic and worldly order aspired to by the ancient Egyptians. As a performative ritual, accounting functioned as an instrument of power that legitimized social order and constructed it in the image of cosmic order. Ancient Egyptian accounting operationalized order and inscribed it onto the ancient Egyptian world in the form of figures, narrative and numbers. These inscriptions were bound to specific times and spaces, laying out the patterns of the Egyptian world, acting as ancient temporal and spatial ordering devices. Temple space was rendered malleable to accounting inscriptions detailing offerings to the gods. The outside walls of the temple were a writing surface for accounting inscriptions, texts, and pictorial scenes of offerings as a visual reminder of the Pharaoh rendering an account to the gods. By inscribing accounting entries upon the inside and outside walls of the temples, accounting discourse became intertwined with the architectural discourse of these temples. Accounting inscriptions of offerings were an orchestrated set of rituals intended to create a reality in which the preservation of order was of paramount importance; they were rituals that legitimized the power of Pharaohs as sovereign and divine rulers on earth, and they also served to inculcate the populace with the importance of observing *Maat* in every walk of life.

Part III contains seven chapters on accounting inscriptions relating to a number of key state institutions: taxation, the fleet, the palace, funerary temples, mining, state projects, and bakeries. That this part of the book is so large in comparison with the next part, which is devoted to the private domain, is due to the dominance of state institutions in ancient Egypt in contrast to the much smaller private domain.

The tax inscriptions analyzed in Chapter 6 exhibit several key characteristics that formed the basis of orderly accounting procedures: temporal specification; spatial designation; personal identification; and object naming, differentiation, enumeration, and valuation. In the first instance, taxable subjects were defined. Further, tax was first estimated before cultivation allowing for variations in land fertility and proximity to water, and later assessed as a final tax liability once the produce or crop was ready. When the final tax assessment was made, the inscriptions showed the date, in terms of day, month, and year of the reign of the relevant Pharaoh; the location of tax assessment/collection; the amounts of tax liability due for collection; the amounts collected and the remainder, if any; and the final destination to which the tax was to be delivered. Names of relevant individuals were noted, in particular the taxable subjects, the scribes assessing and collecting tax, the individuals responsible for the transportation of tax, and those to whom tax revenue was delivered for storage. Thus accountability could be traced down to every individual responsible for a particular stage in this cycle of taxation. Each document named, differentiated, itemized, and counted the objects collected as tax such as gold and corn. Also, objects were valued extrinsically through the use of monies of account as a common denominator against which the relative values of different objects were assessed.

These comments have implications for the relationship between accounting, order and the state. Given the major redistributive role of the ancient Egyptian economy, it is difficult to envisage how it could have functioned without the intervention of accounting. The dependence of state taxation upon accounting technologies created the scope for a complex web of power relations to ensue. It was by virtue of titles conferred by the state upon specific officials that these officials could exercise their accounting skills. Once authorised as experts with responsibility to act on behalf of the state administration, officials constructed the wealth of taxable subjects to assess tax liability. In so doing, they linked the population to the state in a network of dependencies. The population expected the state to provide political and economic stability and in return the state demanded that its subjects provided resources to maintain religious, social, political, and economic order. Given the importance of order and the concept of *Maat* in ancient Egypt, tax scribes were expected to ensure fairness in levying tax, yet at times unjust tax burdens were levied on the weak and defalcations of tax by officials occurred.

Chapter 7 is concerned with accounting for transportation of objects by the fleet: the inscriptions demonstrate how activities undertaken by ships were ordered. Accounting inscriptions concerning the transportation of cargo named individual ships, the individual (or crew) responsible for that ship, the detailed items shipped and their quantities, sometimes with finer quantification, such as the use of cubic measurements for the transportation of stones, thereby making it possible for the scribes to trace responsibility for deliveries to the relevant individual. The scribes recorded deliveries of items and their distribution as rations, noting delivery dates, the names of the person who sent the deliveries, the agent (or servant) who delivered the items, the official (typically a scribe) in whose presence deliveries were made, and the individual items received and their quantities. With these details, it would have been easy for the scribes to identify whose deliveries were on target and whose were not. Similarly, the mention of the name of the scribe present at the time of the delivery endowed the process with legitimacy and authenticity, yet at the same time it signaled the responsibility of the scribe as a custodian of the items delivered. In the case of distributions made to the ship crew and other passengers as rations, the recording of these activities acted as evidence of payment and made possible the tracing of scribal responsibility. By keeping a record of receipts and distributions, the scribes could match needs for provisions against supplies and thereby maintain order.

Chapter 8 examines the role of accounting in two predominantly redistributive patterns: provisioning for members of the palace and their dependants and provisions to promote an individual's cult in death. The palace accounts matched daily consumption and receipts of each commodity, used the 'due today' entry to balance inflows and outflows when different, ensured the presence of recurring daily balances of bread loaves, and held near zero balances for commodities that needed to be kept fresh (vegetables). Moreover, the chain of redistribution through which commodities and objects exchanged hands was intricately ordered into a set of complex and interdependent relationships co-ordinated in the main via accounting entries.

Accounting inscriptions revealed the significant asymmetry between the palace and ordinary people: shortages in supply were not shared equally between the Royal family and the commoners as the burden was always borne by the latter. The precise order in which different categories of recipients were inscribed also re-emphasized and visualized the social gaps in their rankings. In this strict order the Royal family came first, followed by the Palace dependents, and last by the commoners. By prioritizing claims in this manner, accounting inscriptions constructed, underpinned, and legitimized the hierarchical order of ancient Egyptian society. Further, accounting formed an important part of *Maat* (justice/order), for *Maat* did not imply strict equality between all; rather it implied preserving the *status quo* of the social hierarchy as any disturbance to that order was construed as a threat to the survival of Egypt.

Accounting also underpinned the writing and execution of private wills, and ordered the relationships between the living and the dead. Inscriptions were mobilized to ensure the promotion of personal cult via carefully calculated provisions, not necessarily as a strict measure for measure but more likely as an overcompensation to secure compliance with the terms of the contracts. The senior priest overseeing the execution of the contracts was differentiated from his subordinates by having a ration twice as much as each of them. Further, the inscriptions clarified who had to make a payment, how much to pay, and how each of them was to be (over)compensated for what he paid. Temple days were used as payment valued in terms of their economic equivalence.

Chapter 9 focuses upon accounting for funerary temples dedicated to dead Pharaohs. Administrative units were created and linked to economic and religious entities to support temple activities and match supply with demand. Work in the temples, such as rebuilding, repair, and maintenance was allocated to teams (phyles). Scribes used black and red ink in a tabular format (*organizational visibility*) whereby objects were enumerated, quantified, and classified by type, size, and colour (*technical visibility*), which facilitated signalling which items were damaged and type of damage, tracing responsibility for damage to the departing phyle, and facilitating planning repair of damaged items in time for the arrival of the new phyle.

Provisioning for funerary temples was ordered via the creation of administrative units whose activities were inscribed by the scribes into a network of dependencies (*dependency visibility*). Various estates supplied pre-specified amounts of grain and flour to a unit which recorded them by type and original source, took its own allocation, and supplied the remainder to the solar temple. The solar temple sent the grain and flour to the estate which converted them into bread, beer, and other drinks, and sent the final products back to the solar temple which took its own provisions and provided rations to the funerary temple. In this elaborate redistributive structure, any delivery could be traced to its original source. Through the use of a grid system and black and red ink the scribes could differentiate between amounts due as revenue, actual quantities delivered, and remaining balance. Accounting inscriptions specified the allocation and delivery of provisions to every member of temple staff and were at the centre of this redistribution chain, institutionally ordering and bonding religious entities (the funerary and solar temples) with administrative entities (suppliers, the residence, and the producing estates) into an economic and social unity.

Accounting inscriptions constructed the priests into agents of the dead; priests were not only expected to honour the contractual arrangements governing their management of temple endowment, but were also enticed to take action against fellow priests found guilty of opportunistic behaviour. Ancient Egyptian accounting had sacred and divine attributes; it was a technology that linked inextricably these two domains of the ancient Egyptian world. By organizing patterns of supply, determining rations, recording the movement and status of objects, monitoring temple work activities, and assigning responsibilities, accounting served to ensure the preservation and perpetuation of the cult of the dead Pharaohs and thereby maintained order in the netherworld.

Chapter 10 examines inscriptions relating to the role of accounting in ordering mining activities. The scribes played a key role in mobilizing, planning, executing, and monitoring mining activities. They documented and inscribed these activities, accounted for expedition members, itemized and enumerated the objects brought with the expedition, and allocated rations to expedition members. With few exceptions when day rate targets were determined by the leader of the expedition for his men, normally targets were not set for an expedition. However, the absence of such quantified targets from the inscriptions in some cases does not rule out prior oral agreement on them. It appears that the leader of the expedition was charged with bringing back specific quantities of objects from the mines, but without a time limit, given the long, arduous journeys to the mines and the uncertainties concerning the speed with which the objects demanded could be found and extracted.

The Horus Eye fractions were used to determine rations for expedition members according to rank. In some inscriptions, seemingly awkward and at times large fractions were used as basis for determining rations. Pragmatically speaking, one may wonder what difference it would have made for unskilled labourers to have been each paid ½ a measure of beer instead of the 1/3 measure typically allocated, or for seal-bearers to have been each allocated 3/4 of a beer measure instead of the 47/60 used. But such speculation misses the point, for these accounting inscriptions sought to construct and reproduce a reality of order throughout mining activities; one that engineered a perception of reciprocity that transcended occupation and rank, and, more importantly, a socially embedded, well-ordered ranking system where each occupation and rank were allocated symbolically their places and spaces in a hierarchy of social order. Constructing this hierarchy through accounting technologies was also an exercise in violence particularly for those placed in the lower layers, for then it becomes visible to all that they are valued the least because they are measured to have contributed the least of all individuals or groups that make up the hierarchy.

Chapter 11 explores how accounting inscriptions ordered work organization in state projects. Inscribed rosters and name lists of the workmen, their daily attendance and absence, and work completed facilitated work monitoring. The foreman and his division were a locus of accountability, a focal space for scribal measurement, inscription and reporting, and an entity whose location was delineated both spatially (by project and place) and temporally (by specific day, month, and year; temporal targets; and periodic measurements). The partitioning of large work forces into a hierarchy of entities, descending in size from crews, through gangs and phyles to divisions, provided a neat way of ordering, aggregating, and disaggregating labour. Through the intervention of accounting inscriptions, each level in this work hierarchy was converted into a quantity that designated a particular standing in the social order. Targets were set in weights, specific time-volume ratios, and other conversion ratios, but this was closer to 'task orientation' rather than to 'timed labour', the concept associated with industrial capitalism (Thompson, 1967: 60–61), as concern was with ensuring that a particular task was completed, rather than with meeting precise time targets.

The differential worthiness of human endeavour of a workman was constructed as a fraction of one loaf of bread via the use of accounting calculus. A system of equivalence was deployed whereby rations measured in a particular commodity were translatable into other commodities. Typically, one commodity may be designated as the unit of measurement, or the 'money of account,' such as loaves of bread or *deben* (91 grams of metal weight). As value equivalence was defined between these 'money of account' commodities, a flexible scheme was established whereby payments could be made in any commodity (e.g., fish, geese, beer) while observing strict *value* equivalence. These pay lists were accounting codes that reinforced and *visualized* the relative importance of employees but they were also an instance of violence as suggested above. Accounting and administrative inscriptions created a spatial and temporal zoning that served as the basis of work organization and discipline. Such strong emphasis upon precision, detailed calculation, order and control had their parallels in the wider society at large. Yet, the state of order is never permanent. The chapter details a major instance of disorder where the Pharaoh's necropolis workmen went on strike for several months because of the failure of the state to deliver the workmen's due rations which they construed as a violation of order that had to be redressed before they can resume work.

Chapter 12 examines the role of accounting in ordering the baking process. Accounting inscriptions rendered baking activities and those involved in them calculable and visible through the use of a combination of physical measures of quantity and quality. Performance targets were established reflecting: (i) loss permitted in the baking process; and (ii) the baking ratio *(psw)* which measured baking dilution, making it possible for the scribes to match the actual *number* and *quality* of loaves produced against targets with differences, if any, between the two indicated. Moreover, quantity equivalences were used to aggregate loaves of differing sizes and weights. These procedures provided a means of controlling the activities of the bakery, starting with grain deliveries from the granaries, and going through the conversion of grain into flour, dough, and baked bread. The inscriptions reveal the scribes' awareness of the input-output flow of the baking process, and the scribes' quest for detail prompted them to keep separate accounts for each baker, thereby indicating *the potential* to hold each individual baker accountable for his performance.

While the preceding discussion has focused mainly on the potential for accounting to order the baking process and construct systems of human accountability, alternative explanations are worthy of exploration. One possibility is that very detailed accounts, such as those of the bakeries and of some of the other domains covered in the book, have a strong ceremonial role. In this case, the emphasis on detailed recording of activities and elaborate balancing of accounts, at times dealing with hundreds of thousands of bread loaves, may have been intended as a way of affirming and legitimizing the status of the scribes. Alternatively, in ancient Egypt, bread was especially significant because it had a life-giving property. Keeping detailed accounts of bread baking may have been motivated by the desire to underscore the significance of bread as a life-giving substance. Further, the accounts examined in Chapter 12 related to the army bakeries in a period of extensive military campaigns, where inappropriate control over army bakeries would have jeopardized the effectiveness of the army. Such elaborate control of bread baking may have also been an example of the quest by the state to reassert order following the collapse of the Amarna revolution after the death of the heretic Pharaoh Akhenaten.

Part IV deals with accounting inscriptions intended to order the private domain; in particular private estates, the household, and semi-barter exchange. While much less significant in magnitude compared to the domain of state institutions, these few areas of private activities are quite important in shedding light onto how the private domain was accounted for and ordered.

Chapter 13 deals with the accounts of a farmer's estate and household. Accounting for the estate made it possible for the farmer to quantify his wealth, the annual outcome of land cultivated in his name, whether owned or rented land, and the debts collected and outstanding. These inscriptions show that he could plan to extend his agricultural activities, by specifying how much additional land can be rented for cultivation at what price, and how this would be paid for. He could also specify targets of expected output from his cultivated land. The allocation of small plots of land to the persons attached to the estate were underpinned by calculations that took account of the capacity of each individual for cultivation, the extent of land fertility, the rent that had to be levied and the timing of its payment. Accounting inscriptions made it possible for this farmer to monitor the affairs of the estate household from a geographic distance and to trace the responsibilities assigned to his agents during his absence.

Knowledge of his wealth, annual produce, and Nile inundation levels allowed this farmer to fix rations for his household which were differentiated so that he could be 'generous' to a measure towards some members of the family compared to others, thereby establishing a social order invested in calculation. The inscriptions also show how the rations were made sensitive to the availability of crops given the frequent fluctuations in inundation levels. In both cases of the estate and the household, each account was a time-space ordering device that specified precise dates, locations of individuals and activities to be accounted for, and details of individuals who were designated as the locus of accountability. Such spatial and temporal anchoring of the accounts meant that stricter measures of accountability could be established and acted upon.

What is notable is the performativity of accounting in producing the order it inscribes. In fixing rations for members of the household, accounting did not only construct the fortunes of these individuals, in terms of how little or how much access they had to resources. It also unequivocally established a particular social pecking order. Thus, the qualitative respect in which the farmer held his mother, for example, is translated into a precise social rank reflected in the 'generous' provisions allocated to her compared to other members of his household. Further, even when dealing with *concrete* commodities, such as emmer or barley, the valuations imposed upon them through the use of money of account endowed them with an *abstract, theoretical* value that facilitated ordering them in terms of value and rendering them amenable to greater human intervention. Parts of a commodity could be exchanged for parts of other commodities with equivalent value that is more precisely denominated, and payments for loaned commodities could be accepted in other commodities (or monies of account) provided that the exchange price is agreed by the creditor.

Chapter 14 discusses how accounting inscriptions and money of account ordered semi-barter exchange in the necropolis village of Deir El-Medina. Accounting inscriptions recorded seemingly mundane and repetitive exchanges of objects valued via money of account, and showed how the values of exchanged objects were brought into equivalence, rendering the exchange parties equal irrespective of their social standings. The invention of money of account has profound effects upon the construction and status of value, whereby what is typically an internal, and personal, concept of value derived under barter in the absence of money of account is transformed into a more precise construct of wider acceptability underwritten by society-wide norms in the presence of money. The interaction of money and accounting created new possibilities for ordering lives by facilitating 'action at a distance' in new forms not possible before. Once money of account was combined with accounting inscriptions it became possible for a wide range of exchange activities to be quantified, documented, and reported upon periodically.

This accounting/money nexus impacted trust and reciprocity. While money and accounting are viewed by some as disruptive of social bonds, they can also cement relations of trust. The notion of a value that commands society-wide acceptance is rooted in a strong measure of trust in money and accounting without which value would cease to have a shared meaning. Compared to situations of pure barter, a fundamentally different notion of reciprocity obtains with the emergence of money and accounting. The approximate understanding of reciprocal exchange of different commodities under pure barter which has only an internal referent is transformed into a more precise expression of equivalence inscribed in monetary terms with external referent.

With money of account, a socially shared appreciation of its role in valuing objects and establishing equality between exchange parties is generated. This role is expanded further with modern money where shared understanding of its role becomes more universal and new configurations of social and economic order are engendered as the circulation of objects is increased like never before. In the process of valuation and inscription, money and accounting combine to erase the individual characteristics of the objects exchanged, as their individualities and complexities are reduced to a number; a constructed value. Whether in its ancient or modern form, money is endowed with qualities that almost defy and deny its social construction: it is seen as an impersonal medium such that, via its ability to construct and assign values to objects, it neutralizes differences between them; hence, its potency and power. This neutralization orders exchange through its performative power, as it produces a context in which parties to an exchange are constructed as being equal to each other.

Part V contains Chapter 15 which provides an overview of the key arguments in the book, and explores a number of possible themes through which the relationship between accounting, order, and performativity might be theorized. These themes examine accounting as a ritual, a myth, a sign system, a signifier, a temporal and a spatial ordering device, a means of violence, and an archive and a cultural memory. For each of these themes, the discussion in Chapter 15 briefly shows how previous parts of the book relate to the theme and, by way of example, make some preliminary comments on how further theorizing of accounting might be pursued. Rather than seeking to offer a detailed engagement with theorizing these themes, the intention is to provide a brief and preliminary discussion to illustrate their theorizing potential in the hope that future scholars would accord them greater attention.

In summary, the ancient Egyptian accounting inscriptions and images examined in this book are suggestive of a notion of order, whether cosmic or worldly (social, political, religious, and economic), that emphasizes non-random organization into patterns. Egyptian accounting functioned as a performative technology that worked on individuals and groups to create and sustain order. The intervention of accounting into the cosmic and worldly domains enhanced the probability of congruent action occurring. At the cosmic level, accounting for offerings served to emphasize a notion of reciprocity that underpinned the fragile equilibrium in the cosmos and reasserted the Pharaoh's divine right to kingship: by making *valuable* offerings to the gods, in return the gods protected Egypt. At the worldly level, accounting visualized activities and achievements and provided an incentive for individuals to demonstrate that their actions were consistent with *Maat* as the pristine condition of the world and with the requisite qualities of political, social, and economic order. This in turn preserved the *status quo*, as social and economic stability buttressed the claim of Pharaohs to kingship as their heavenly right. In the netherworld, accounting served to order the relationship between the dead and the living by underpinning agreements between them and the responsibility of the latter to make the regular provisions pledged in order to promote the cult of the former. What emerges from inspecting ancient Egyptian accounting inscriptions therefore is their major involvement in constructing and underpinning order in the three ancient Egyptian realms: the cosmos, earth, and the netherworld.

The book argues that accounting has several attributes pertinent to the construction of order in these three realms. Even in its most ancient forms, such as those in ancient Egypt, accounting is endowed with numerical organization that creates an ethos of order. This includes, for example, arranging entries in tabular or grid format; organizing numbers in sub-totals, totals, and grand totals; matching debits and credits; and constructing account balances. Accounting is a constructor of value and a means of establishing equivalence and value reciprocity in exchange relationships, enabling restitution and the ordering of economic and social life. Accounting is a sign system, a signifier, a myth, and a set of rituals conducted in time and space. Accounting technologies operate as time/space ordering devices, by virtue of the fact that accounting entries designate transactions by precise dates and locations, hence serving to order both temporal and spatial human experience. Moreover, through the use of its metrics and performance reports, accounting differentiates, hierarchizes, ranks, and orders populations and social relations. Measurement and performance reporting highlight individual responsibility and inculcate a sense of achievement and accountability in the self which might encourage voluntarism while at the same time promoting collective order by creating a sense of shared internal commitments to quantified group or organizational norms. However, such exercises in differentiating and ranking individuals according to their achievements and worth are also instances of violence especially for those occupying the lower rungs of the social and occupational ladders.

Accounting entries form a discursive archive that functions as a form of connective memory and a bonding device for society. As a technology of measuring and valuing, accounting endows certain activities with visibility and hence renders them knowable, thus impacting the choice of which activities are admitted into orderly life. By implication, things that are rendered un-measurable through accounting are left out as unknowable and a form of disorder. Accounting is an institutionalized technology that sustains the *status quo*; a ritual; a religious ceremony that identifies and serves the interests of individuals and groups. It is a malleable set of techniques and a vocabulary that can be appropriated and adapted by interested human agency to underpin a multiplicity of rationales concerned with creating and reproducing order. In so doing, it also 'produces' an un-measurable terrain that it may aspire to invade and conquer in the future. These varying qualities and attributes show just why accounting technologies invade many aspects of life, public or private, not only in the remote past but also in contemporary organizations and society. These qualities attest to the remarkably powerful role that accounting plays in constructing and underpinning order.

2 Ancient Egypt

A Brief History

This chapter provides a brief history of ancient Egypt, focusing in particular on the dynastic eras, a challenging task given the duration, diversity, and richness of the subject matter as well as the limited space available (Figure 2.1 shows a map of ancient Egypt). The aim is to provide the reader with an historical background that would give some context to the analysis that follows in the remainder of the book. The approach taken in writing this book is to organize it around themes rather than to follow a linear, temporally ordered analysis of events. In dealing with a history as long and as remote from the present as that of ancient Egypt, some conventions, arbitrary as they may appear, are used to render accounts of such history possible. One such convention is the distinction drawn by historians between prehistory and history. In the case of ancient Egypt, prehistory refers to the period beginning with the first evidence of cultural activities, dating at least to the Lower Palaeolithic (Old Stone) Age before 18,000 BCE (Grimal, 1994), or even earlier (Midant-Reynes, 2000), stretching through the Neolithic and Chalcolithic Ages (Hayes, 1990) to about 3300 BCE.[1]

The period from about 3300 BCE onwards is designated as history which, based on an earlier classification made in 280 BCE by an ancient Egyptian called Manetho, has been divided into Early Dynastic and Dynastic Periods.[2] Despite some variation in the classifications used by various Egyptologists (e.g., Hayes, 1990; Wilkinson, 1999), the Early Dynastic era includes Dynasties Zero to III, and the Dynastic era covers Dynasties IV through to XXX[3], the latter being divided into: (i) The Old Kingdom (Dynasties IV–VIII); (ii) The Middle Kingdom (Dynasties XI and XII); (iii) The New Kingdom (Dynasties XVIII–XX); and (iv) the Late Dynastic Period (Dynasties XXI–XXX). This classification leaves out a number of Dynasties; these relate to intermediate periods of disorder, turmoil, and division whereby ancient Egypt ceased to function as a united country with regions ruled by local chiefs or foreign invaders. Dynasties VII to X cover what Egyptologists call the First Intermediate Period, and Dynasties XIII to XVII refer to the Second Intermediate Period. Because of the uneven nature of surviving inscriptions, the chapter concentrates on three episodes: the Old Kingdom; the Middle Kingdom; and the New Kingdom.

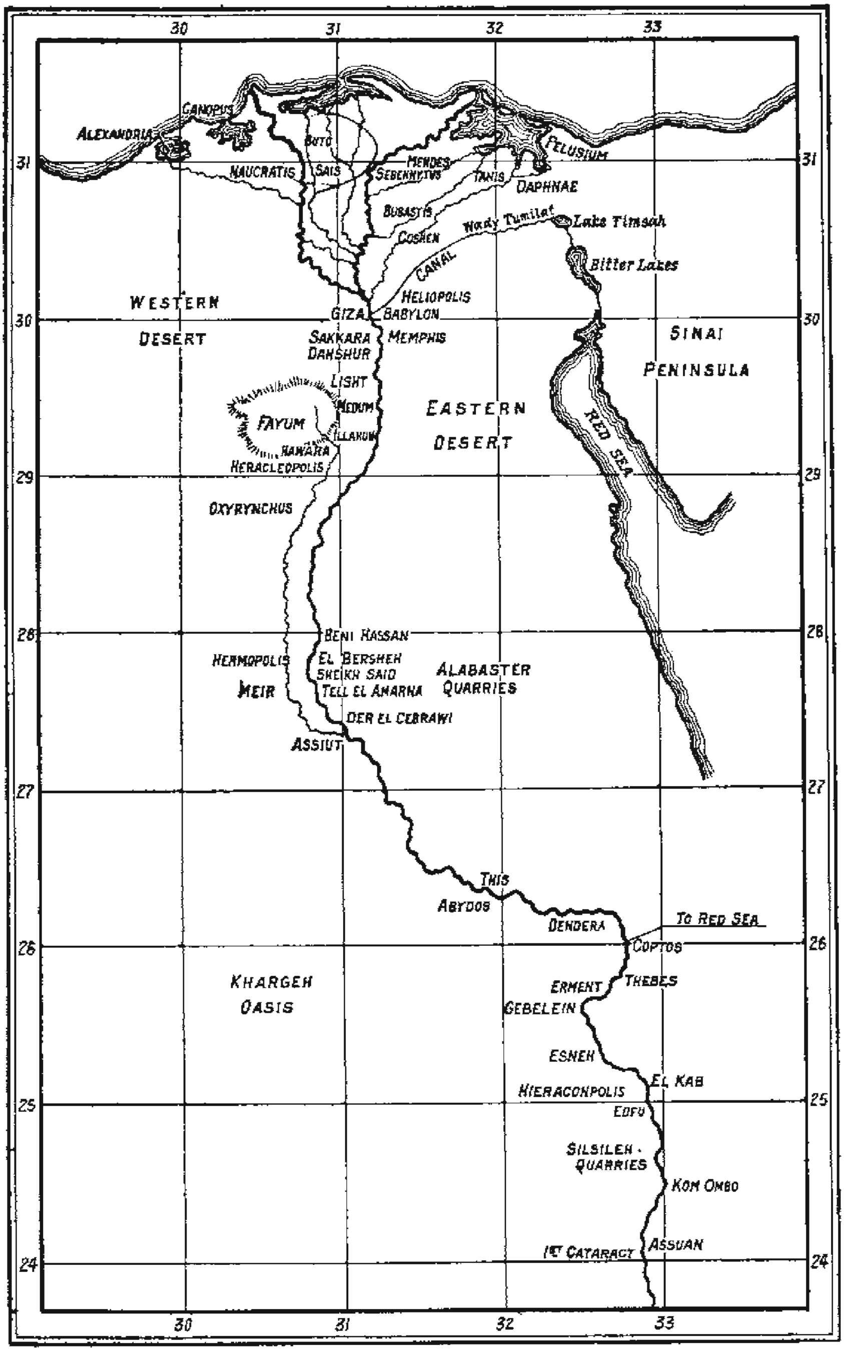

Figure 2.1 Sketch map of ancient Egypt.
**Source:* A.A. Quibell, Egyptian History and Art, London 1923, frontispiece

THE BIRTH OF A NATION AND THE EMERGENCE OF ORDER: THE OLD KINGDOM (2575–2134 BCE)[4]

Several alternative theories have been put forward by Egyptologists in order to explain the origin of the ancient Egyptian state, but none of them is compelling because supportive evidence is lacking. Janssen (1978: 218) argues: "the early Egyptian state is like a founding without known parents . . . We may be more or less able to trace the birth of Egyptian civilization, that is of writing, architecture, art, and even of Egyptian religion, but the origin of the state remains obscure." Sometime around 3300 or 3200 BCE the Northern and Southern parts of ancient Egypt, for so long existing as two separate lands, were united under the rule of a Pharaoh by the name of Menes or Narmer and this unification ushered the emergence of a powerful kingship and a central administration conducted on a national scale (Wilkinson, 1999: 112).

Royal Power: Pharaoh as God and King

> "Pharaoh does not act arbitrarily. He maintains an established order (of which justice is an essential element) against the onslaught of the powers of chaos. This function is independent of the accidents of history. It is an eternal truth" (Frankfort, 1948: 9, cited in Naydler, 1996: 111)

As soon as Egypt became a united country under a single monarch, steps were taken to ensure the promotion and continuation of the monarchy. Administration was crucial for controlling the population and supporting Pharaohs as supreme and divine rulers. So, how did this concept of Pharaoh come to be so engrained in ancient Egyptian thinking?

The roots of the concept of kingship in ancient Egypt go back to prehistory (Baines, 1995: 147). Once Egypt was unified "divine kingship had emerged as a coherent ideology" (Wilkinson, 1999: 183). An effective means of promoting the authority of the Pharaoh was for priests to link him directly to the gods. A relationship of mutual dependence between Pharaoh and clergy developed whereby each promoted and protected the interests of the other. Through inscriptions and religious practices such as prayers and festivals, the priesthood was able to establish the position of Pharaoh not only as indispensable to the survival and prosperity of Egypt but also as a divine right.

The pyramid texts dating to the Old Kingdom (Faulkner, 1969; Lichtheim, 1975: 29–50) reveal the awe-inspiring images of Pharaohs upon their death. Numerous proclamations are made to the effect that, once Pharaoh dies, he escapes death: "I escape my day of death just as Seth [one of the ancient Egyptian Ennead] escaped his day of death" (Utterance 570, Faulkner, 1969: 224), and ascends from his grave to the sky and prays to be recognized by the gods, to become a star, to join the sun-god, to be identified with gods, and to become a supreme deity and a flash of lightning. In these images Pharaoh is re-presented as immortal. Also, incorporated into the Pyramid texts are pronouncements concerning the 'legitimate' heritage and rights of Pharaoh as the unquestioned ruler of Egypt:

> "I am the Unique One, the Bull of the sky, I have crushed those who would do this [harm] against me and have annihilated their survivors. That which appertains to my throne, which I have taken and lifted up, is this which my father Shu [a member of the ancient Egyptian Ennead] gave me in the presence of Seth." (Utterance 254, Faulkner, 1969: 64)

The key role of the Pharaoh was to align social and cosmic order, and to underscore this critical role kingship was invested with godly authority (Shu and Seth) as a matter of divine right. The power and authority of Pharaohs was also strongly reinforced through royal regalia (e.g., crowns, flails, sceptres) and iconography, artistic representations of almighty Pharaohs crushing their enemies, titles of power and divinity, rituals and festivals, and imposing palaces, temples, shrines, and tombs. This divine image had a concrete significance with which the ordinary Egyptians could identify, with Pharaoh being the conduit between gods and subjects (Hornung, 1997: 283).

Kingship also entailed a worldly sphere of royal authority. Inscriptions and representations from the Old Kingdom show royal involvement in military activities, visits to sacred shrines, temples, and tax-assessment and collection (Wilkinson, 1999: 220). As the formal head of state, the Pharaoh through his vizier (somewhat similar to the position of 'Prime Minster' in a ruling monarchy, but see later) oversaw the functioning of administration; this concept of kingship did not only monitor and control, but it also promoted creativity:

> "In Egypt the ever problematic rule of humans over humans found a form that did not lead to oppression despite the extent of the power of its rulers. The ancient Egyptian state allowed creative, productive powers to unfold, to which we owe the great achievements of this culture. Pharaoh was tied to a clearly defined role that itself called forth creative powers: he was supposed to act as the creator god upon earth and overcome human imperfections with his divine nature." (Hornung, 1997: 313)

Unleashing this creative potential, underpinning kingship as a divine rule, immortalizing Pharaohs, and ordering the population required the support of a strong economy and an effective administrative machinery.

The Economy and the Administrative Machinery

The ancient Egyptian economy was essentially an agrarian economy. As in all agrarian (or peasant) economies, cultivators (who may have belonged to institutions, private owners, or lessees) produced for self-sufficiency and paid taxes to the state and rent to landlords (Haring, 2009). Land could be bought or leased by private individuals, although the extent to which this occurred differed in different kingdoms, with the scope for private land ownership increasing significantly from the beginning of the Middle Kingdom onwards. Private exchange also took place in the Old Kingdom, with evidence from the Fifth Dynasty (2465–2323 BCE) showing individuals exchanging objects in a semi-barter form in local markets (Posner-Kriéger, 1979b, cited in Haring, 2009: 6). These exchanges would likely have been based on the use of money of account in the form of goods such as linen, copper, silver, gold, and grain, but not coinage money, to ensure value reciprocity of the items exchanged. Thus, while a centralized redistributive system played the key role in the economy of the Old Kingdom, this was paralleled by a not insignificant level of private exchange.

As early as Dynasty Zero, the machinery of the state was already at work in the administrative and economic spheres: labels were discovered of tax collection for the state and wine jars traded with Canaan (Davies and Friedman, 1998: 38). Importantly, ancient Egyptian writing, initially relating to tax accounting, seems to have also been invented in an almost complete form with the emergence of the state:

> "In Egypt, this invention [writing] corresponds with the birth of the Egyptian state, and its growing administrative and bureaucratic needs. Some of the earliest uses of this writing system were to record the receipt of tax, and denote the origin of commodities and their production date. It was not until much later that surviving works of literature and historical records were composed, but the capacity to create such texts were already in place at this early time." (ibid: 36).[5]

The invention of accounting and writing is clearly inseparable from the emergence of scribes (Wilkinson, 1999). Unfortunately, surviving evidence on the socio-political, economic, and administrative structures during the Early Dynastic period and the Old Kingdom eras is extremely sparse, even when including less conventional sources, such as seal impressions found in tombs, inscriptions, and scenes on tomb vessels and texts inscribed on tomb walls. Seals with royal names designated the ownership of objects by the Pharaoh or the state (O'Conner, 1987). Bard (1992: 301) notes:

> "the texts on mid-Dynasty labels . . . present information of a political nature set in a calendric framework, followed by the royal *serekh* [seal] and titles, officials' names and titles, and specifications of contents in

> the jars to which the labels were affixed. Here hieroglyphic writing serves yet another function: to name the administrators of the state within the framework of the year name."

Hence, for seals to have any significance, they had to be bound spatially and temporally, thereby making possible the tracing of accountability to individuals or groups.

The ancient Egyptians developed a calendar for religious purposes and a civil calendar for dating events (Hayes, 1990; Depuydt, 1997). The religious calendar was a lunar time reckoning calendar. The civil calendar provided for a year of 365 days made up of three seasons each consisting of four thirty-day months, plus five epagomenal days of religious festivals added at the end of the year (see Chapter 4). The three seasons were influenced by the agrarian nature of Egypt: *Akhet* (Inundation: first inundation of the Nile); *Proyet* (Growth: preparing fields and planting seeds); and *Shomu* (Harvest). An astronomical calendar was kept side by side with the civil calendar to correct for the ¼ day per year missing from the civil calendar. Initially, each year was named after a key event, but during the Old Kingdom years were numbered sequentially anew once a Pharaoh ascended the throne.

The reign of Djoser has been marked by Egyptologists as a major discontinuity in the development of state administration. One key development was the emergence of the official title *tjaty* (vizier) who was in charge of government (Grimal, 1992: 90). His responsibilities included being 'chief of all royal works', 'chief of the house of weaponry', 'chief of the chambers of the king's adornment', 'royal chancellor of Lower Egypt'. He was also the chief judge, but he did not necessarily deal with all legal matters (ibid: 91). Armed with a developed writing system, a method of (ac)counting, a civil calendar, and knowledge of organization, the ancient Egyptians structured their administrative machinery around these technologies. The dating of this more developed administration to the Third Dynasty has been partly based on the perceived necessity of the organization of labour, resources and skills required to complete the Djoser Step Pyramid. Whatever the reasons, the beginning of the Third Dynasty (2649–2575 BCE) "appears to have been marked by the establishment of a more structured administration, comprising different departments each with its own bureaucracy. For the first time, all the branches of government may have been brought together in one location, at Memphis" (Wilkinson, 1999: 112).

The administrative structure of the Old Kingdom seems to have developed out of the organization of the royal palace (Kuhrt, 1997: 151) and had two key elements: the division of Egypt into forty-two provinces or nomes, and the establishment of offices to facilitate administration and control. The nome system was developed at the beginning of the Third Dynasty (Wilkinson, 1999: 142). Some Egyptologists (e.g., Kanawati, 1980; Strudwick, 1985) have attempted to piece together the main features of the Old

Kingdom administration from official titles. Strudwick (1985) has identified six major administrative titles: the overseer of the great mansions, the overseer of the scribes of the king's documents, the overseer of works, the overseers of the granaries, the overseer of the treasuries, and the viziers. Similarly, Janssen (1978: 223) mentions the title of 'seal-keeper of the king', "the man who was in control of the pharaoh's income in kind as well as of the storerooms and workshops of the royal residence" as one of the oldest and most important officials. He also refers to the title of 'master of the largesses' as an important office, with responsibility for redistributing food and other commodities among the royal family and palace dependants. These efforts have yielded interesting insights concerning the administration of the Old Kingdom, but care must be exercised in inferring functions from titles because frequently titles were of a symbolic and honorary nature bestowed upon subjects favoured by the Pharaoh. What is clear from the limited evidence available is that the hierarchy of administration was headed formally (or symbolically) by the Pharaoh followed by the vizier immediately below him. The vizier was held responsible for four key domains of the Treasury, Agriculture, the Royal Archives (Land Ownership), and Justice (Grimal, 1992: 91–92).

The Treasury was organized under the responsibility of an overseer who received orders directly from the vizier, and its responsibilities included the collection of taxes, their storage, processing, and redistribution to state institutions and subjects (Wilkinson, 1999: 125). One of the Treasury departments was known as *pr-sn'*[6] 'storage' (ibid: 128) which stored taxes collected for subsequent redistribution and also kept buffer stocks for unanticipated future needs, e.g., crop failure owing to unfavourable inundation of the Nile. Another department was *pr-hri-wdb* or 'house of redistribution' (Petrie, 1901) which redistributed agricultural produce to various recipients, including state employees according to precisely determined rations. The *iz-df3*, or 'the provisioning' department managed state revenues, hence the long stability of Egypt as the economy, social arrangements and kingship were dependent upon the effectiveness of the Treasury.

The domain of agriculture was divided into two sections. The first, which was further sub-divided into two 'houses' each with its own overseer and scribe, was devoted to breeding livestock. The second section was responsible for cultivating land claimed after inundation, organized under the responsibility of the 'chief of fields' assisted by 'scribes of the fields' (Grimal, 1992: 91). A network of royal foundations was organized in the form of land holdings to provide agricultural produce for the court and to function as centres for tax collection. As the establishment of royal foundations expanded, an increasing part of the cultivatable land was brought under the control of the royal court which had first call on its income with the remainder deployed into other state projects. Royal economic interests were interwoven with divine kingship ideology; as Wilkinson (1999: 117) observes "The ideological justification for the creation of royal foundations remained divine kingship and its central importance to the Egyptian civilisation." Further, other domains and estates, each with its own work-force and administrative arrangements, supported the royal household. The domain of the Royal Archives dealt with the deeds for land ownership: contracts, testaments, and royal decrees. Finally, the domain of justice was concerned with the execution of the law.

Maat: Order, Truth, and Justice

The word *Maat* in ancient Egyptian designates a multitude of meanings, including 'righteousness', 'truth', 'justice', 'order', the pristine condition of the world (Lichtheim, 1992: 7; Blackman, 1998: 22–23). *Maat* designated two dimensions of order: cosmic and worldly (both for the living and the dead). The Pharaoh was assumed to rule through *Maat* with its twin dimensions by guaranteeing cosmic and worldly order. *Maat* was a key part of the ancient Egyptian religion, and only Pharaohs could make the ritual offering of *Maat*: "the offering of Maat very specifically commemorates the willingness of the king to uphold the fundamental principles of world order (*m3't*) that were established at the beginning of time. The ritual also functions as a symbol of the king's legitimacy" (Teeter, 1997: 1), thus divinity and politics were combined into one ritual. Assmann (1970: 65, cited in Teeter, ibid: 1) notes:

> "the restriction of the presentation of Maat to the king is a reflection of the pharaoh's superior and sole ability to discern the true functions and value of Maat. He alone, as the divinely supported ruler, knows the values by which Egypt should be guided."

The importance of doing *Maat* by Pharaohs for sustaining the legitimacy of kingship and securing order has support in the Pyramid texts: "May you shine as Re; repress wrong doing, cause Ma'et [*Maat*] to stand behind." (Utterance 586, Faulkner, 1969: 238). Similarly, in Utterance 758, *Maat* (truth) is taken to correspond to everything that Pharaoh says "Collect what belongs to truth, for truth is what the king says" (ibid: 318). So ingrained was the concept of *Maat* and the importance of its goddess, also called *Maat*, into ancient Egyptian mythology that the goddess *Maat* was present in the company of other important gods when the dead king was reborn, and *Maat* was also a celebration of the King's deeds as he reaffirms right in place of wrong:

> "The king has ascended on a cloud, he has ascended [. . .] Ma'et in the presence of Re on that day of the festival of the First of the year. The sky is at peace, the earth is in joy, for they have heard that the king will set right [in the place of wrong . . .] the king [is vindicated

> (?)] in his tribunal on account of the just sentence which issued from his mouth . . ." (Utterance 627, ibid: 260)

Maat has been celebrated in literary sources. Every citizen was expected to do *Maat*, for this was precisely what Pharaoh wanted:

I am buried in this tomb,
Having spoken Maat, the god's wish, daily it is the good.
I used to tell the king what serves people,
I never told an evil thing against people
To the majesty of my lord."
(Tomb inscription, Fifth Dynasty, Lichtheim, 1992: 10)

Not only does Pharaoh love *Maat*, he also rewards handsomely his subjects who uphold it, so much so that the ordinary Egyptian was expected to love *Maat* (ibid: 11). Doing *Maat* by the Pharaoh's subjects was celebrated as an indication of their personal integrity, trustworthiness, and respect for kingship. By doing *Maat*, one can demonstrate own worthiness as a just and honest person, as a competent official on whom Pharaoh can depend, and as part of the overarching notion of order in the ancient Egyptian world. To give *Maat* a concrete meaning, an official from the Old Kingdom describes himself as (Blackman, 1998: 24), "A man of truth (or righteousness) before the Two Lands [Upper and Lower Egypt], equitable and righteous like Thoth [Djhuty] . . . more accurate than the plummet, the likeness of the balance." *Maat* is primeval, existing from the beginning of time, and everlasting:

> "Truth [*Maat*] is great and <its> effectiveness endures; it has not been confounded since the time of Osiris. Men punish him who transgresses the laws, and it is a transgression (even) in the eyes of the rapacious; it is baseness which takes away wealth, and wrongdoing has never brought its venture safe to port. He says, 'I acquire for myself,' and does not say, 'I acquire because of my occupation,' but when the end comes, right-doing endures. That is what a man learns from his father." (The Maxims of Ptahotepe, Simpson, 1973: 162)

Thus, the articulation of *Maat* admitted a divine element but also rendered it translatable into meanings relevant to everyday life. Every Egyptian was demanded to do *Maat*, and the intention of the discussion of *Maat* in Pyramid texts, autobiographies and maxims was to internalize this concept into subjects. As will be evident in later chapters, numerous inscriptions, including those dealing with administrative and accounting matters, such as reporting on progress of affairs, frequently underscored the importance of doing *Maat*; it was the foundation upon which the world of the ancient Egyptians was erected.

Temples as Sites of Religious and Economic Activities

The temple had two distinct, yet interrelated roles: religious and economic. It was the state temples, rather than local temples, that played the greatest role in these spheres. State temples were large and impressive architectural monuments employing large numbers of priests, scribes, and artisans, with massive kingly endowments of precious metals, foodstuffs, and several other objects which were redistributed as rations among beneficiaries. Goedicke (1979: 120–121) highlights the responsibility felt by the Pharaohs' temples concerning their ability to provide for funerary care:

> "The economic and administrative function of the cult-temple evolved from the funerary responsibilities of the crown. . . . [This] required administrative and economic preparations, especially as the continuation of existence beyond death was seen as depending on permanent physical care and provisioning. This task, like the maintaining of the royal court and its members and dependents, was the concern of the royal economy, which supported the funerary needs of the royal followers entered in closely defined cemeteries."

A text from the Sixth Dynasty (2323–2150 BCE) is one example: the Pharaoh bestows an offering to the benefit of the cult of Ni-hesbed-Pepi, royal seal- bearer and chief scribe of the boat crews (Lichtheim, 1975: 18). Favours to temples and funerary cults also included exemptions from dues and taxes, such as those given by Pharaoh Pepi I (2289–2255 BCE) for the chapel of his mother (ibid: 28). Moreover, the economic livelihood of the temple depended upon a network of relationships entailing villages and estates to ensure the supply of sufficient provisions for the royal cult (Posener-Kriéger, 1976, 1979, 1997). State temples were run by the palace administrators and played an important role as economic institutions. The relationship of these temples to the state is best summed up by Haring's (2009: 5) comment: "They [temples] were clearly separate institutions, but not fully autonomous, and their interests were closely connected with those of government departments and the crown." Local temples had little economic significance, especially in the earlier parts of the Old Kingdom, but this was addressed later on when the state began to recognize the economic and political potential of these temples (Seidlmayer, 1996: 119).

THE MIDDLE KINGDOM (2040–1640 BCE)

The historical, socio-political, and economic contexts of the Middle Kingdom were significantly different from those of the Old Kingdom. As we have seen, the Old Kingdom experienced high stability, self-assured, and powerful centralized governments. The end of the Old Kingdom around

2134 BCE brought about chaos (the First Intermediate Period) which lasted for about 94 years (Gardiner, 1961; Kuhrt, 1997). A measure of this chaos can be gleaned from *The Admonitions of the Sage Ipuwer* who lamented the weakness of the state, the inability to collect taxes which left state coffers virtually empty, and the lack of order where the poor were exploited, dishonesty reigned, and Egypt became lawless (Simpson, 1973). At the end of this traumatic period, Egypt was re-united and the Middle Kingdom was born. What is at times lost in the midst of concern with the social upheaval of the First Intermediate Period is that this major disorder provided the foundations for the unique civilization and order of the Middle Kingdom. Wilson (1951: 105) remarks of this period as being: "the formative time of the classical Egyptian literature, with a productive literary movement of considerable vigor." This section comments briefly on some of the key changes that took place during the Middle Kingdom concerning government, administration, the economy, and other state institutions.

Responsibility of Government, State Administration, and the Economy

In contrast to the Old Kingdoms, Middle Kingdom governments were more decentralized. Wilson (1951: 106) suggests that the Middle Kingdom "was at first very decentralized and has justly been called a 'feudal' state. The tight control of the Pharaohs of the early Old Kingdom could not be regained." However, it was during the Middle Kingdom that a more systematic and detailed bookkeeping emerged (Kuhrt, 1997: 162). Despite the relative weakening of central authority, there remained a paramount expectation that the Pharaoh did *Maat* by protecting and providing for his subjects, securing social justice, and maintaining worldly and cosmic order.

During the Middle Kingdom, Pharaohs relied on four domains: the Vizierate, the Treasury, the Priesthood, and the Military (the latter was not a permanent domain of the state in the Old Kingdom), administered by a hierarchy of officials as in the Old Kingdom (Quirke, 1990). Each town was governed by a provincial official responsible for delivering taxes to the vizier (Kemp, 1983). The stable periods of the Middle Kingdom were characterized by a quest for structure and order engineered through careful planning (David, 1986; Kemp, 1989). A basic modular organization of society', where the population was divided into several distinct groups, was used to spread urbanism and bureaucratic control throughout the country; despite the decentralized form of government, this model:

> "reflects the prevailing mentality of the Middle Kingdom, which tended towards an extreme structured view of society, apparent both in an inclination to devise arithmetic calculations for every facet of economic life, and in the attempts to control human behaviour and property by means of a strict bureaucratic framework." (Kemp, 1989: 155)

As in the Old Kingdom, the economy of ancient Egypt was a combination of two spheres: a local subsistence and a nation-wide redistributive system. In the household economy, or oikos, one produced mainly for immediate family. Also, at the end of production or trade cycle subjects delivered the crop to government centres (if they were working for the state) or paid taxes (if they were working for themselves). These administrative arrangements echo those identified by Polanyi (1944, 1947, 1977) as characteristic of redistributive economies. Just like in the Old Kingdom, a significant measure of centricity (that is, goods flowing into the centre and out of it again) was at work whose aim was to facilitate the operation of state bureaucracy, but the system was not monolithic. The palace played a major role in administering the economy, supported by a complex network of pious foundations or religious institutions, each enjoying a quasi-autonomous status, and collecting, storing, and redistributing taxes as rations (Kemp, 1989).

Because of diversity in the economic, political, and social domains of the Middle Kingdom, Egyptologists have divided this period into the ‘early phase’, beginning with the formation of the Middle Kingdom around 2040 BCE to the end of the reign of Senusret II around 1878 BCE, and the ‘late phase’ beginning with the reign of Senusret III to the end of the Middle Kingdom. Quirke (1990: 2) states: “The division of the Middle Kingdom into ‘early’ and ‘late’ phases covers material culture and textual expression, and therefore represents a substantial change in which political motives need not have played a primary role.”

A decisive discontinuity occurred when Senusret III embarked on his Nubian campaign. Seeking to secure Egypt’s southern borders, he had a channel cut at the First Cataract (near Nubia), effectively creating a new Egypt as the Nile became navigable from the Second Cataract to the Mediterranean. This project was significant both politically and economically: “Although invisible, the order of economic relations and patterns of transport and communication are transformed at a profound level by the Nubian policy of Senusret III” (ibid: 2).

This break was accompanied by major administrative elaboration and development. Many tasks became better defined via the use of new administrative titles, and some new title designations were invented. James (1985: 51) argues that as a result of these changes “the old system of hereditary nomarchs was destroyed and replaced by a bureaucratic machinery, the operators of which owed their allegiance to the king in his residence.” Even though Quirke (1990: 3) is probably closer to the mark in stating that “The innovations may not amount to new methods of operation so much as represent a more exact embodiment of existing practice”, the critical point is the formalization of such practices into specific, carefully defined titles. What is looming large here is the visible hand of the administration reproducing and refining itself through the further inscribing and propagation of titles.

Space limitation does not permit a full analysis of the formalization of refined, more specific administrative titles in the late Middle Kingdom (see Quirke, 1990, for an authoritative analysis). Suffice it to list just some examples of these titles: Interior Overseer of the Inner Palace, Scribe of the Outer Palace, Scribe of the Fields, Treasurer, Deputy Treasurer, Trusted Sealer, and Servant of the Treasury Steward. The use of these, and other specific, titles was an addition to titles inherited from previously. However, one limitation of these developments is the potential increase in administrative rigidity, leading senior administrators to make use of non-specific titles. This 'administrative revolution' has been interpreted by James (1985: 136) as the main cause underlying the major developments that occurred in arts and writing, and the expansion in the number of scribes and in scribal schools[7]:

> "The strong, centralized, regime of the Twelfth Dynasty generated the settled circumstances in which fine work was produced, including handsome sculpture, relief-work, and hieroglyphic inscriptions. The same circumstances produced a development of bureaucracy accompanied by a great increase in written documents. Greater scribal activities meant more scribes; the training of more scribes required more scribal schools, and an attention to scribal practices which had not been needed in earlier times."

The Redistributive Roles of State Institutions

The Palace developed a number of organizations, including large Granaries as an important part of the Treasury, to help administer the redistributive economy (Kemp, 1986). The Treasury also dealt with metals, cattle, and other agricultural produce such as flax. In addition, the labour bureau, the butler, the state workhouse (or the registering house), the Vizier, and the scribes played important roles in the functioning of the redistributive system. This entailed organizing the supply side (the inflow of goods) and co-ordinating the demand side (the outflow of goods).

As in the Old Kingdom, the temples drew on regular food offerings, much of which derived from productive resources owned by them. These offerings included precious metals, cultivatable land, mineral resources, animal herds, fishing rights, vegetable beds, vineyards, and beehives. A tradition of 'Reversion of offerings' (Kemp, 1989: 193) was followed according to which offerings presented to the gods were initially taken before statues of lesser cults, and subsequently used to pay for temple overheads, e.g., payments in kind as rations to priests and workmen. The large temples also had their own merchant ships for the purposes of both domestic and international trade. Traders exchanged surplus produce, such as grain and linen, for other commodities needed by the temples, such as papyrus rolls. Kemp (ibid: 193) argues: "The temples offered secure storage and administration and, perhaps even more important, a receipt in the form of texts and scenes displayed in the temple which recorded the gift as a great deed of pious generosity". The status of the temples was rooted in the overall ideology of the state; within the economic context they served as an institution subject to frequent state intervention particularly in terms of their economic endowments.

In summary, the temples produced a surplus of income after covering overheads required for their own maintenance. Because of the volatility of the Nile levels, substantial buffer stocks were stored in temple complexes in order to manage peaks and troughs and to smooth out supply and demand. Kemp (ibid: 195) suggests that major temples were "the reserve banks of the time". In times of political stability, such buffer stocks were used not only to ensure the basic economic subsistence of the Pharaoh's subjects, but they were also consumed throughout the country in excessive abundance to underpin the perception of a grandiose monarchy. From an administrative perspective, buffer stocks served to legitimize kingship, stabilize the economy, and sustain order.

THE NEW KINGDOM (1550–1070 BCE)

The decline of the Middle Kingdom was followed by the Second Intermediate Period (1640–1532 BCE) which witnessed major disorders in the form of a collapse of central authority and the invasion of Egypt by forces from Asia (the Hyksos) who ruled Northern and Middle Egypt for ninety years (Kuhrt, 1997: 173). After the defeat of the Hyksos the New Kingdom was formed. The New Kingdom is characterized by conquest of foreign lands, immense wealth, and a high degree of stability that ushered a powerful and 'mature' state (Kemp, 1989: 183). As Kuhrt (1997: 185) observes, "Although there were political shifts, dynastic crises and occasional setbacks in imperial power, they never lasted long enough to shake fundamentally Egypt's power over an immense area, embracing northern Sudan in the south and stretching into southern Syria and the Lebanon in the north." The rise of this empire was accompanied by government re-organization and changes in the role of the temples.

Reorganization of Government and Order

Government restructuring was intended not only to address the chaos of the Second Intermediate Period, but also to avoid what was perceived as significant loss in state revenue resulting from the 'excessive' decentralization that occurred in the Middle Kingdom. By the beginning of the New Kingdom steps were taken to introduce strict central control over the provinces, thereby marking a return to the centralized form of government developed during the Old Kingdom. The beliefs of the ancient Egyptians had a major impact on the way they modeled their world. The political, social, and economic systems were assumed to have been fixed at some earlier point in time by the creator god (the Atum). These systems, along with inter-personal relationships within the community at large, were part of an idealistic, orderly world taken to be immutable:

> "This idealism which dominates the monumental texts is historically significant since a continuous interaction between the ideal and the real, between ideology and practice, was important in policy-making and in political and social relationships." (O'Conner, 1983: 186)

The immutable order for the appropriate arrangement of the universe and of human affairs was symbolized by the concept of *Maat*, which, as in the Old and Middle Kingdoms, "implied truth, justice, righteousness, right dealing, order" (Wilson, 1951: 119). *Maat* was a quality which related to good rule or sound administration and it was celebrated in literary inscriptions from the New Kingdom (Lichtheim, 1976). It was "the cosmic force of harmony, order, stability, and security, coming down from the first creation as the organized quality of created phenomena and reaffirmed at the accession of each god-King of Egypt" (Wilson, 1951: 48). According to Assmann (2002: 230), the essence of *Maat* assumed a fundamentally different substance in the New Kingdom: previously, in particular during the Middle Kingdom, *Maat* referred to the concept of 'connective justice', where individual action was guided by a person's heart having been inscribed by society's norms of *Maat* which acted to bond or connect members of society together. In the New Kingdom *Maat* became:

> 'the expression of a form of connectivity stemming from god's will. "Being Just" no longer meant integrating oneself into the network of the community via self-effacement and solidarity, but now required giving oneself up in humility and obedience to the will of god, who, as Amenemope declares, "gives *maat to whom he pleases."*' (ibid: 230)

The pervasiveness of this idealized world view was supported and sustained by several factors. First, a powerful tradition that emphasized continuity with past cultural and religious values, underpinned by linguistic unity and the keeping of regular textual and iconographic records. Second, a sizeable, dense and ethnolinguistically homogeneous population (between 3 and 4.5 million) whose resource base was amenable to centralized control. Third, considerable support provided by the state in every domain of society. Finally, a religious system rich in myths and rituals that was widely shared across society and acted as a cohesive social force. Yet, the 'real' frequently differed from the 'ideal' as totalitarianism was entertained only in the realm of official pronouncements.

As previously, kingship remained a concept of paramount importance, and was propagated and promoted as a heavenly right and a necessary condition for securing order and observing *Maat*, but with a new emphasis on Pharaoh as warrior because of "the militaristic tone of the period" (Kuhrt, 1997: 211). Yet, it would be mistaken to suggest that the New Kingdom was simply a return to the model of the Old Kingdom. There were several, subtle, yet significant discontinuities:

> "whereas in earlier periods the different sides to government appear to be facets of a single system, with the New Kingdom we can recognize their thoroughgoing institutionalization. To this we must add Egypt's unprecedented international position as an imperial power. And overall there were developing a polish and style that made the New Kingdom more like the states that have come and gone in the world ever since, down to recent times." (Kemp, 1983: 184)

In addition to its major religious responsibilities, the government maintained and enhanced the agricultural economy, extended Egypt's frontiers, ordered society and administered justice. Emphasis on centralized control facilitated the functioning of a departmentalized and hierarchical structure.

Towards the end of the Nineteenth Dynasty (1307–1196 BCE) the power of Pharaohs began to decline, but prior to this, "favourable circumstances abroad, the structure of the political system itself and the supervisory and manipulative abilities of the kings appear to have rendered the royal power, so frequently celebrated in the monumental record, a reality" (O'Connor, 1983: 205; see also George, 1972: 8). The military campaigns undertaken during the New Kingdom were supported by a military administration, and the army was "divided up into various units, primarily infantry and chariotry but also more specialised units, each with its own hierarchy of officers" (O'Connor, 1983: 206). With the formation of a large, organized army first to defeat the Hyksos then afterwards to expand Egypt's influence over its neighboring countries for several centuries, the army began to become a center of power, and state officials in the New Kingdom increasingly began to include military personnel (Spalinger, 2005: 267–269).

Although based on the Old Kingdom model, the administration of the New Kingdom was less complex and more responsive to royal priorities, particularly ensuring rapid military mobilization and provisioning the army with supplies. As in previous kingdoms, the most important administrative position was that of the vizier, except that there were now two, one responsible for Upper Egypt and the other for Lower Egypt. The structure of government reflected functional specialism and geographical location. It comprised three major units: internal government (royal domain, army and navy, religious domain, and civil government), administration of conquered territories, and the dynasty.

Civil government was maintained by the two viziers, Treasury (granaries, cattle) overseers, town mayors, and village chiefs. Its stability was sustained by securing strong links between central and provincial governments and through the pervasiveness of royal power. The vizierate was responsible, among other things, for the execution of directives, actions, and affairs of the Palace as an institution and for the efficient functioning of the civil government and of the Treasury. The overseers of granaries and cattle were entrusted with regulating economic life and securing and storing government taxes. Cities and important towns each had a mayor whose responsibility included tax collection, assisting central government's representatives in performing their duties, and executing orders received from them. Regular communications between the centre and the provinces were maintained through royal residence in national capitals, which facilitated both formal inspection and informal contacts, and by the viziers' messengers who communicated instructions to various locations and monitored the conduct of local affairs. The vizier and treasurer met every morning in the palace gateway to discuss progress of their affairs following the vizier's report to the Pharaoh (van den Boorn, 1988), and presumably this applied to each of the viziers. Further, according to O'Connor (1983: 217):

> "Relationship between the government and the governed showed a mixture of bureaucratic sophistication and other mechanisms emphasizing more personal, direct and, in a sense, 'primitive' means of inquiry and decision-making."

The administrative system was intertwined with the economic organs of the state with significant focus on the use of meticulous systems of calculation. This resulted in the emergence of a creed of stewards who:

> "would have had as their principal concern not the facilitating of the transfer of wealth to the crown, but rather the effective operation of the foundation or estate of which they themselves were the chief beneficiaries. The resulting tension, or division of loyalty, is not made explicit in formal texts because these conform to a particular view of the ideal society, where loyal service to the king was paramount." (Kemp, 1983: 85)

Temples

During the New Kingdom, full-time priesthood began for the first time, signifying the increased importance of conducting rituals in temples (Shafer, 1998: 9). New Kingdom temples played a crucial ordering role in ancient Egypt: "The temple was a branch of cosmic government and participated in the order of the universe by sun and king. It served Pharaonic governance by maintaining the cosmos ritually" (ibid: 8). The temples were the loci of perpetual struggle and opposition between order and chaos and the interaction of sacred and secular time and space. It was in the temples that the sky, earth, and netherworld came together: "These three realms converged in temples and cohered in rituals. There the power of creation was tapped, chaos was bridled, and cosmic order was renewed" (ibid: 1). Temple sacred space was where orientation to the cosmos and immersion in primordial order occurred, a space where the 'dead' Pharaoh came into direct contact with divinity, where gods and Pharaoh became transparent to one another. It was there that the 'dead' Pharaoh experienced truth and regeneration of life (ibid: 1998). Secular space was where acts of worship and cult preservation by the priests took place, as well as worldly matters such as maintenance and building work, provision and distribution of offerings, and other administrative and accounting activities. Thus, the temple was the site of distinguishable, yet intertwined, sacred and secular space.

Although dating back to Dynasty 13 (1783–1640 BCE, Middle Kingdom), a brand of temples, the Temples of Millions of Years, became more prominent during the New Kingdom (Haeny, 1998). They were built to pay homage to the Pharaohs, to celebrate and glorify their achievements and their observing of *Maat*, and to consolidate their union with divinity (Lablanc, 1997). To honour the gods, not only were their names glorified in prayers, but also offerings were made to them in return for their preservation of cosmic and worldly order. In the name of Empire, the New Kingdom ushered a new dawn of a significantly expanded Egyptian world that required godly protection for a large geographical space with a multiracial mix of subjects. The lavish and expansive temple building program throughout the New Kingdom underscores the importance of temples to cosmic and worldly order, and temple rituals, including accounting as argued in this book, were accorded a significant scope to function as performative rituals that constructed and sustained order.

This discussion offers a brief account of the history of three distinctive episodes of ancient Egyptian history: the Old, the Middle, and the New Kingdoms. This choice has been motivated by the desire to concentrate upon those episodes to which the inscriptions analyzed in this book relate. This chapter therefore should not be taken as a succinct history of ancient Egypt; at least for some this account of history does not focus on discontinuities of the kind that Foucault (1974: 3–10) emphasizes. In spite of its intellectual attractions, Foucault's focus on discontinuities in the study of history runs the risk of treating history as a set of eruptions and novelties while marginalizing similarities or recurrences. For without understanding similarities and continuities, how are we to recognize what a discontinuity is? Moreover, the very notion of recurrence makes history possible; history is in the main order reaffirmed through recurrence punctured by instances of disorder. So, in this account of the history of ancient Egypt the importance of both recurrence and discontinuity should be emphasized. The dynamics of interplay between these two themes occur not only as history moves from one episode to another, say from the Old Kingdom to the First Intermediate Period, but also these dynamics are played out within each episode.

Given that the majority of the accounting inscriptions analyzed in this book relate to various domains of the economy of ancient Egypt, the next section engages with the literature on ancient economies.

MODES OF ORDERING THE ECONOMY

How are we to make sense of such notions as the ancient Egyptian economy? What does the economy of ancient Egypt have in common with ancient economies? The literature on ancient economies is voluminous and it is not proposed to engage with it in detail here because of space limitations. A particularly important corpus of work on ancient economies is the sustained output of Karl Polanyi and his followers and critics.

Polanyi (1944, 1957a, 1957b, 1977) identifies three forms of integration that, he contends, achieve the unity and stability of the economy: reciprocity, redistribution, and exchange. He treats these forms of integration as more than a simple reflection of the aggregates of human behaviour; more importantly they reflect the institutional context underlying individual behaviour. Reciprocity implies “movements between correlative points of symmetrical groupings” (1957b: 250) and is usually found among families, tribes, religious groups, and neighbours. Through *symmetry* reciprocity safeguards both production (e.g., allocation of land) and family/tribal sustenance via mutual distribution of products (e.g., ceremonial distribution of food). Redistribution implies “appropriational movements towards a centre and later redistribution in accordance with need” (Renger, 1984: 46). It is facilitated by a measure of *centricity* in the group which renders possible the collecting of goods on voluntary basis or by appropriation in the form of levied taxes, their storage, and redistribution. Redistribution enmeshes the economic system in social relationships and is part of the prevailing political regime as it deals with problems caused by differences in soil and climate or by time discrepancies between, say, production and consumption.

Reciprocity and redistribution are not mutually exclusive, for both can be combined within the same economy, although operating at different levels. While reciprocity corresponds to *horizontal* exchange among local units, redistribution corresponds to *vertical* exchange between a central authority and local units (Valensi, 1981). For Polanyi (1944: 49), however, they both involve mutual adjustments which are socially, rather than economically, driven as: “In such a community the idea of profit is barred; higgling and haggling is decried; giving freely is acclaimed as a virtue; the supposed propensity to barter, truck and exchange does not appear. The economic system is, in effect, a mere function of social organization”.

Exchange implies ‘vice-versa’ movements between ‘hands’ within a market system and is dependent upon a *price mechanism* where prices fluctuate thereby permitting the attainment of gain through antagonistic relationships with other parties. The market system is underpinned by the principle of production for the market, i.e., for gain, as distinct from domestic production under household economy. In household economies domestic production is the objective, even if some goods are traded in local markets. The local market is a 'port of trade' and plays the dual function of fulfilling elementary material needs, such as food or clothing, and providing a forum for the "arbitration of conflicts and the conclusion of agreements" without profit being the object of exchange (see also Valensi, 1981). This form of market-based exchange is not borne out in ancient Egypt which had no market system operated by a price mechanism; rather, exchange was of a semi-barter type co-ordinated by a price agreed between the parties to the exchange and facilitated via the use of monies of account to value exchanged objects (see Chapter 14).

Polanyi (1944, p. 256) has stressed that reciprocity, redistribution and exchange neither represent 'stages' of development nor imply a specific temporal sequence; instead, some may exist in a subordinate form in the shadow of a dominant form "which may itself recur after a temporary eclipse". For example, he argues that tribal societies are integrated through reciprocity and redistribution, whereas archaic societies (such as ancient Egypt) rely predominantly on redistribution but allow, in a subordinate fashion, for reciprocity and some form of exchange to exist. Yet, even when the flow of goods is co-ordinated through centricity and redistribution, some measure of reciprocity is always present. Thus, while Polanyi conceptualizes reciprocity as a mode, or particular category, of integration, it is also a quality of integration. Once this dual role of reciprocity is appreciated, it becomes evident why some measure of reciprocity always underpins all forms of integration.

Polanyi's important contribution to the study of ancient economies is due to his recognition of the multiplicity of forms that can be used to integrate economic activities and his rebuttal of arguments suggestive of the universal dominance of the market, or any other, mechanism. Polanyi (1944, 1947, 1957a, 1957b, 1977) has argued forcefully that before modern times no economy was a market economy in the sense of implying a self-regulating, price-based, system of markets. His work has drawn attention to the non-commercial, socially embedded dimensions of the economy which, he argued, became decoupled from the economic motivation only in nineteenth century Europe. Ancient economies then neither have to be perceived as distant applications of a market system (e.g., Warburton, 1997), nor do they have to be taken as some 'primitive' system with no relevance to the present (Stevelinck, 1985). Instead, Polanyi's work demonstrates that ancient economies should be understood on their own terms and within their specific institutional and social contexts.

Despite the importance of Polanyi's contribution, the limitations of his work should be acknowledged (see Warburton, 1997, for an over-critical assessment). At a general level there are two major concerns. First, Polanyi's work has deterministic tones, for he talks of 'antecedent conditions' which give rise to specific forms of integration, and the institutional and societal contexts are seen as pre-ordained. Second, in stressing the importance of the non-commercial forms of exchange, Polanyi marginalizes the unique characteristics of humans as producers (Halperin, 1984; Valensi, 1981).

Further, Polanyi's conceptualization of reciprocity and redistribution is problematic, but rather than abandon his approach altogether it is proposed here to build on his integrative modes since they are general, elementary, and structural rather than evolutionary (Liverani, 1990: 20). Polanyi's work portrays reciprocity as one form of integration that operates through symmetry in contrast to redistribution which functions via centricity. Although reciprocity and redistribution are closely intertwined, they have fundamentally different social underpinnings than Polanyi seems to suggest. Sahlins (1972: 188) illustrates these two points by arguing first that redistribution is "an organization of reciprocities, a system of reciprocities". Second, different underpinning social organizations are at work in both concepts; redistribution is the collective action of a group; it is a *within* relation and the component of social unity. In contrast, reciprocity is a *between* relation; it is the "action and reaction of two parties . . . [it] stipulates two distinct social economic interests" (ibid) and hence it emphasizes social duality. As argued in later chapters, the redistributive patterns in ancient Egypt were more complex than what Polanyi's mappings would permit, for Egypt´s form of integration was mediated by a strong measure of reciprocity. If all modes of integration (reciprocity, redistribution, and markets) are broadly identified as modes of exchange (for strictly speaking each involves some element of exchange no matter how asymmetric), then reciprocity can be viewed as something that comes in between those involved in an exchange. Such 'intervening' attribute endows reciprocity with a special effect; as Sahlins (1972: 94) suggests, because reciprocity is a 'between' relation, "however solidary, it can only perpetuate the separate economic identities of those who so exchange". Now, attention is turned to those who inscribed exchange and a lot more: the scribes.

THE SCRIBES: CONSTRUCTORS OF ORDER

> "The offering of a scribe of Egypt, The overseer of grains who controls the measure, Who sets the harvest-dues for his lord, Who registers the islands of new land, In the great name of his majesty, Who records the markers on the borders of fields, Who acts for the king in his listing of taxes, Who makes the land register of Egypt; The scribe who determines offerings for all the gods. Who gives land-leases to the people, The overseer of grains, [provider of] foods, Who supplies the granary with grains." (The Instruction of Amenemope, translated by Lichtheim, 1976: 148–149)

The quote by Amenemope lists the crucial tasks undertaken by the scribes (an example of a seated scribe is shown in Figure 2.2), of which

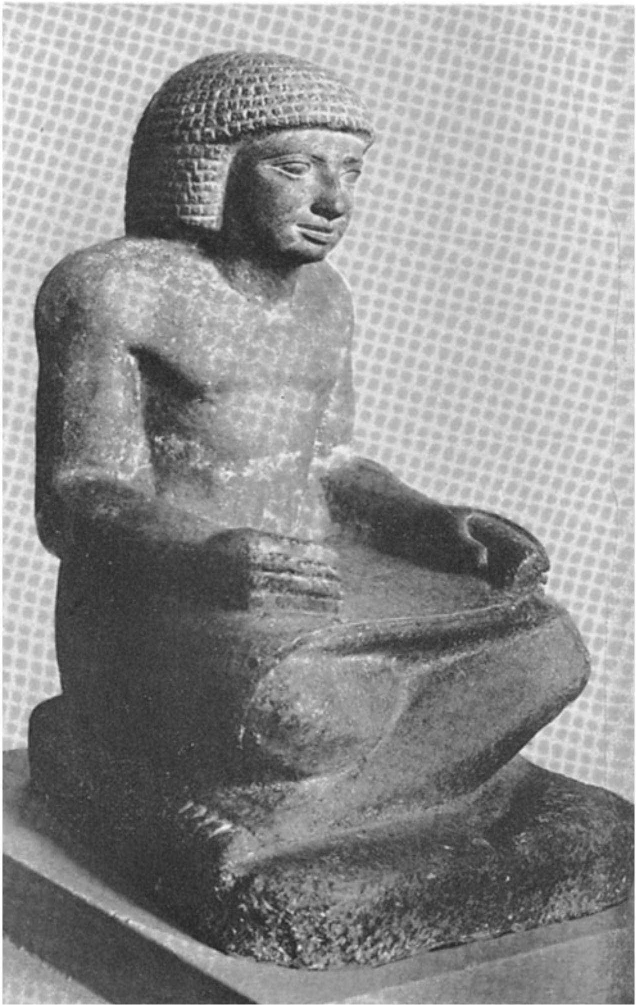

Figure 2.2 Seated scribe.
**Source:* Seated Scribe: statue Leiden D20; from W.D. van Wijngaarden, Meesterwerken der Egyptische kunst te Leiden, Leiden 1938, pl. 9

many are accounting-related. By dint of placing themselves at the centre of economic, social, political, and religious relations, the scribes were among the most esteemed, and the scribal occupation was one of the most coveted, in society. To be a scribe was a high-held ambition for the ancient Egyptians:

> "Be a scribe. It saves you from toil and protects you from all manner of work." (Papyrus Anastasi II, translated by Caminos, 1954: 51)

> "I have put you to school with the children of high officials, to teach and instruct you in this office which will lead to power and authority." (Late-Egyptian Miscellanies, translated by James, 1985: 140)

As Clagett (1992: xi–xii) observes, the scribe as a knowledgeable man (very few scribes were women) 'was able to measure, count, and record'. To enhance the prestige of their occupation, three divine figures were embraced by the scribes: the god Djhuty, the scribe of the gods; the goddess Seshat, the tutelary deity of the "archive of the divine scrolls"; and Khonsu, a Theban deity and patron of writing. It is no surprise then that hieroglyphs were frequently referred to by the ancient scribes as the "divine words" (see Roccati, 1997: 67–68), although their literal meaning is 'the language of men' (Liverani, 1990: 38). The majority of important officials were scribes at some point in their careers' (Clagett, 1992: 1–2), and the tombs of influential individuals were adorned with statues and reliefs of themselves modelled on the scribal seated position while writing, as depicted in Figure 2.2. Such high esteem and respectability in which the scribes were held is not surprising in a society that relied heavily on writing and accounting. The significance of the scribal craft was recognized early on in ancient Egypt and assumed an important royal dimension:

> "In the III Dynasty the position of scribe for the King develops into an established office, and the appearance of a 'leader of the King's scribes suggests the formation of a royal chancery'. The early holders of this position, to judge from their burials, were persons of highest social status." (Goedicke, 1964: 31)

Moreover:

> "The importance of the scribe during the Memphite age [Old Kingdom] led to the creation of a special iconography in reliefs and statuary: the seated scribe, the only trade to be marked out as noble in this way during the third millennium." (Raccoti, 1997: 680)

Specific scribal titles may give some indication of the specialization and variety of their roles in pursuit of ordering society. Scribal titles were earmarked for the Granary, cattle, Treasury, grain, silver and gold, fields, divine offerings, as well as more direct bookkeeping titles such as inspector of bookkeepers and royal documents (Clagett, 1992; Haring, 1997).

The Scribal Occupation

In several inscriptions, the scribal occupation is claimed to be significantly better and more glamorous than other occupations, presumably those other than occupations related to royalty, senior officialdom, and priesthood. The prestigious position of the scribes was in recognition of their literate and numerical abilities, qualities that were not in great abundance in ancient Egypt (Baines, 1983: 586). Literate, learned men were deemed immortal:

> "As for knowledgeable scribes since the age of those who came after the gods—those who were able to foretell the future—their names have endured for eternity though they have completed their life-spans and all their relatives are forgotten." (Scribal Immortality, translated by Clagett, 1992: 225)

In *The Satire of the Trades* (translated by Caminos, 1954; Lichtheim, 1975; Simpson, 1973), Dua-Khety, its author, alerts his son Pepy to the merits of the scribal occupation by comparing its leisure and prestige to the hardship and low ranking of eighteen other occupations including those of: carpenters, jewel-makers, barbers, reed-cutters, potters, masons, gardeners, farmers, weavers, arrow-makers, couriers, furnace-tenders, cobblers, washermen, bird catchers, and fishermen. In order to demonstrate the superiority of the scribal craft, Dua-Khety deliberately chooses what were considered at the time 'menial' crafts. Moreover he exaggerates their hardship and suppresses their positive attributes: when the jewel-maker has finished a day's work "his arms are spent, he's weary" and "his knees and back are cramped"; the goldsmith has "fingers like clams of a crocodile" and "stinks more than fish roe"; the potter "grubs in the mud more than a pig"; the weaver has his "knees against his chest, he cannot breathe air"; the fisherman "labores on the river, mingling with crocodiles"; and as for the reed-cutter "mosquitoes have slain him" (Lichtheim, 1975: 189). In contrast:

> "See, there's no profession without a boss,
> Except for the scribe; he is the boss.
> Hence, if you know writing,
> It will do better for you
> Than those professions I've set before you,
> Each more wretched than the other"

Evidently, scribes were able to avoid disagreeable, hard, and unpleasant tasks, and the scribal occupation opened the door for influential administrative roles with great rewards:

> "A villa has been built in your city, and you hold a powerful office, by the king's gift to you. Male and female slaves are in your neighbourhood, and those who are in the fields in holdings of your own making will grasp your hand." (Papyrus Lansing, translated by Caminos, 1954: 400–401)

Whilst the scribe's main responsibilities included inscribing accounts and numerous other documents, and estimating, levying, and collecting taxes, he was seemingly exempt from tax. In papyrus Anastasi V (ibid: 247), a negligent scribe is warned of the dire consequences that face him because he has taken to "working in the field and has turned [his] back upon the god's words [hieroglyphs]". After being reminded of the miseries faced by those working in other professions, and the hardship, even physical punishment whole families suffer for failure to pay taxes, the 'carrot' of tax exemption is dangled before him: "He who works in writing is not taxed, he has no dues [to pay]" (ibid: 247).

These claimed positive attributes of the scribal occupation should not be taken fully at face value. As the scribes were the 'elite' who learned how to write on behalf of others, they were also writing on behalf of themselves. It is therefore hardly surprising that they painted an exaggeratedly romantic image of their occupation compared to others. Baines (1983) and Roccati (1997), among others, have warned that some scribes were of relatively modest means in real life. However, without denying that self-interest had a role to play here, the quality and prestige of the scribal occupation cannot be totally dismissed as the product of scribal fantasy.

Scribal Education

Evidence on the existence of scribal schools in ancient Egypt is extremely sparse. While the existence of such schools in the Old Kingdom cannot be ruled out, the earliest surviving evidence seems to place their emergence during the First Intermediate Period (2134–2040 BCE, see Baines, 1983). In the Middle Kingdom (2040–1640 BCE) the word for school, or 'house of instruction', began to appear in inscriptions more regularly (Janssen and Janssen, 1990: 70). During the Old Kingdom young boys were educated by their fathers which rendered training more specific and perpetuated scribal occupations within families or class lineage for generations (Roccati, 1997: 76). This within-family education was complemented by 'selective' schooling where the children of favoured officials were educated in the Pharaoh's Palace while others were taught as pupils of wise elderly men. Schooling entailed teaching literacy, numeracy, and social values and beliefs (Baines, 1983). Pupil-teacher relationship is perhaps best exemplified by an exaggerated letter written by Wenmediamun to his teacher Nebma'ra'nakhte:

> "I grew up as a boy beside you, you smote my back, and your teaching entered my ear. I was like a pawing horse-team; sleep did not come to me into my heart by day, nor was it upon me by night." (Papyrus Lansing, translated by Caminos, 1954: 410)

The reason for the rise of 'houses of instruction' in the Middle Kingdom appears to be the loss of administrative skills of the Old Kingdom during the First Intermediate Period (Janssen and Janssen, 1990). As Egypt became reunited under the authority of one Pharaoh at the beginning of the Middle Kingdom, shortage in administrative skills became acute. The aspirations for Egypt to re-emerge as a powerful nation seems to have required the establishment of scribal schools to provide regular supply of well-qualified administrators, but as already indicated reference to scribal schools has to be interpreted with caution because of the lack of sufficient evidence to support their existence.

Learning How to Read and Write

Pupils began their scribal education starting from an age range of 5–10 years to allow for differences in pupils' mental and physical abilities, and they continued their education for about 15 years (Janssen and Janssen, 1990). Pupils learned writing, reading, and arithmetic:

> "I tell you how the way of the scribe in his [perpetual] 'Early to your place! Write in front of your companions! Lay your hand on your clothes and attend to your sandals!' You bring your book daily with a purpose, be not idle. They [say]: 'Three plus three.' . . . Another happy occasion you grasp the meaning of a papyrus book . . . You begin to read a dispatch. You will make calculations quietly. Let no sound [coming forth (?)] from your mouth be heard. Write with your hand, read with your mouth and take advice. Be not weary, spend no day of idleness, or woe to your limbs. Fall in with the ways of your instructor and hear his teachings. Be a scribe! " (Papyrus Anastasi V, translated by Caminos, 1954: 262–263)

Thus, reading was learnt aloud via group recitation "read with your mouth", whereas calculations and reckoning were learnt silently "let no sound of your mouth be heard". Writing was learnt by copying short literary classics and various parts of the Miscellanies, a collection of short compositions intended primarily for teaching pupils how to write. In the Middle and New Kingdoms, the language taught to pupils was the version of ancient Egyptian composed in the Middle Kingdom during the Twelfth Dynasty (1991–1783 BCE) because it was considered the classic form of the ancient Egyptian language, supported by an abundance of Middle Kingdom compositions designed for copying and recopying (James, 1985: 145).

Learning how to write apparently followed an ordered set of steps (Janssen and Janssen, 1990: 78–80). First, the young pupils learned to memorize short passages through chanting or recital, following the teacher. Afterwards they began to learn how to write by copying some of these passages on writing boards (made of wood and plaster) or on pottery sherds (ostraca). The only surviving school-book with model exercises is the *Kemit,* a popular and large text from the Eleventh Dynasty (2040–1991 BCE). The *Kemit* contained various specimens of letters, stories and short sentences, and as some passages were difficult the pupils "merely learnt a venerated technique" (ibid: 80). Then pupils memorized and practiced writing Middle Kingdom texts, which tended to be in the form of either instructions or classical literature. Finally, they learned Late Period Egyptian texts dealing with grammar. Once this was completed, some form of streaming took place as more specific apprenticeships were provided to teach the now literate apprentices the skills needed for those who wanted to practice specific professions, for example, to be physicians or administrators.

The scribe mastered the four basic arithmetic operations of adding, multiplying, dividing, and subtracting. It is not clear how the scribes learned to add and subtract integers, and there is no evidence of them using tables for this purpose (Gillings, 1982). Multiplication was performed through the use of the twice-times table. To multiply two numbers, the scribe would decide which of the two numbers is the multiplicand, repeatedly multiply this by 2, adding up the intermediate multipliers until they summed to the original multiplier. Division was taught as a form of multiplication, so to divide, say, 224 by 8 the problem would be restated as 'By what number must 8 be multiplied to get 224?'

Pupils endured intensive training in order to perfect arithmetic. Numerous textbook-type problems were designed for this learning process and preserved in classic documents such as the *Rhind Mathematical Papyrus* (Robins and Shute, 1990), and the *Moscow Mathematical Papyrus.* Commenting on the contents of the *Rhind Mathematical Papyrus,* written during the reign of Ammenemes III (1844–1797 BCE), Hayes (1971: 530) states:

> "Numerous sample problems in arithmetic, worked out and explained in this papyrus, show that the Egyptian of the Middle Kingdom was well acquainted with the four arithmetical operations—addition, subtraction, multiplication, and division—could handle fractions, and possessed a well-defined system of decimal notations. . . . On two writing boards in the Cairo Museum a mathematician of the Twelfth Dynasty has worked out expression of various fractions of the bushel [*hekat*] in terms of the standard divisions of the measure."

Most of the problems that the pupils learned to solve were of a practical nature, such as dividing a number of loaves of bread among a given number of workermen, or finding the expected yield from a specific volume of inputs after allowing for permitted wastage and given a predetermined formula (Ezzamel, 1994). Discipline was strict with attention, diligence, and hard work expected of pupils, and physical punishment for lack of discipline was severe: "Spend no day in idleness, or woe to your limbs" (Papyrus

Anastasi V, Caminons, 1954: 263). Long hours of study were expected: "By day write with your fingers; recite by night. Befriend the scroll, the palette" (Papyrus Lansing, Lichtheim, 1976: 168).

The role of scribes and the importance of inscriptions changed quite markedly during ancient Egypt's history. Roccati (1997) suggests that during the Old Kingdom writing was not performed for its own sake and the scribes did not use writing to express their own opinions. Rather, scribes wrote primarily for the benefit of those intended to know the content of what was inscribed. Many of the palace's instructions were apparently transmitted orally by messengers with decision-making powers. Gradually, inscriptions began to be used to communicate instructions, particularly by the end of the First Intermediate Period, hence the dramatic increase in the importance of scribal education in the Middle Kingdom during which the scribal hierarchy became more rigid compared to the Old Kingdom, and the scribes continued to follow a strict, fairly uniform style of writing.

The material on which ancient Egyptians wrote their texts divided mainly into three types: the walls of the burial chambers and ceremonial monuments such as temples, papyrus, and ostraca (potsherds and limestone boards). Monuments and burial chambers were used mainly for recording religious texts, scenes of everyday life, and military campaigns, although there are some exceptions relating to accounting inscriptions of offerings to the gods (see Chapter 5). Papyrus was used frequently to record texts on religious, literary, legal, scientific, and medicinal matters, and sometimes also business transactions and accounting entries. Ostraca were the most frequently used media for recording daily transactions, accounts and a host of other everyday matters (Janssen, 1975a; Goody, 1986).

Many specialist, technical terms were used in ancient Egyptian accounts, for example, revenue expenditure, interest, price, cost, sub-total, total, grand-total, and balance due (reminder). Such vocabulary was noun-dominated, technically precise and specific to accounting (Mandeville, 2010). By virtue of being technical, this vocabulary was decontextualized, impersonal, and supportive of the accounting entries for which they were used. Said (1991: 145) describes the technical vocabulary of literary criticism as: "purified of inexactness, emotion, or sloppiness", and the accounting vocabulary of ancient Egypt shared these attributes, and it was also frequently inscribed in a tabular format of recording to underscore exactness and organization. It was therefore a vocabulary specifically earmarked for recording accounting entries. Literary texts were typically written in regular, easy to read, classic hieratic whereas administrative documents were inscribed in more cursive hieratic, and later on demotic, language with highly specialized signs that could only be deciphered by specialists (Roccati, 1997: 79). This technical vocabulary was a means of inclusion and exclusion; those who were in the know, the scribes, could access and impart sense and meaning upon the accounts, whereas the majority of ancient Egyptians were excluded from accessing such texts by virtue of their inability to decipher their meanings.

Part II

Accounting, Order, and Gods

3 Accounting and Order

> "The organization of activities and of life itself in terms of accountancy calculation was quintessentially an ordering through which man, on the scale of his own life, came nearer to the work which God (the 'great watchmaker') accomplished on a cosmic scale." (Gorz, 1989: 112, cited in Power, 1992: 479)

This chapter aims to develop the thesis that, even in its most ancient forms, accounting has performative powers that orders institutions, society, and the world. This thesis connects accounting, order, and performativity as three key constructs which are explored in some detail here.

Accounting is linked in the minds of many commentators to counting and accountability, yet at times the connections between these constructs are not as clear as they could be. Counting refers to tallying or reckoning items (individuals, objects) so that they could be sub-aggregated or aggregated. Three types of counting can be distinguished: one-to-one correspondence, concrete counting, and abstract counting. One-to-one correspondence does not require a number system but rather entails establishing a connection between a sign (such as a pebble, or a notch on a stick or a bone), and an commodity/item such as a measure of corn whereby the sign is repeated for every additional unit of the commodity/item (see Schmandt-Besserat, 1992: 185; Mattesich, 2000: 46). This system of counting does not allow for finding out how many items there are in a given set, but is mainly used to verify or compare a collection on a one-to-one basis. Concrete counting refers to a system whereby number words are tied to concrete objects, so that items in one set could be added together and counted, for example, number of sheep (Schmandt-Besserat, 1992). It is a system of tallying or reckoning items (subjects, objects) so that they could be sub-aggregated or aggregated. In abstract counting, number words are not tied to concrete objects but are attached to them whether they belong to one set or several; here aggregation could be performed within a set but also across sets; for example, adding the numbers in sets of different types of cattle or categories of fruit.

Irrespective of its type, counting does not involve any element of valuation or ranking; rather it simply *counts*. This process of counting treats every single item or object as equal in status to every other single or item. Thus, in counting the number of workers in a shift, every worker counts as one, irrespective of personal characteristics. Of course, counting can be organized under categories of varying refinements, so that for example, the foodstuffs category can show counting of vegetables, meat, fruit, and bread with more refinements still of counts of, for example, large-sized, mediumsized, and small-sized bread loaves. Although we may infer that the larger the size of a loaf of bread, holding quality constant, the more valuable is the loaf, no *explicit valuation* is placed on the items or objects being counted. Inscribed counting, therefore, has two attributes: (i) it is a *practice* that visibly enters a record of items and objects; and (ii) it entails *signs* that both *name* and *count* items and objects.

Accounting and counting are different yet strongly connected, because the conduct of accounting entails inscribing entries of named and counted items, but goes beyond counting in constructing and attaching values to subjects or objects. A working definition of accounting developed by Ezzamel and Hoskin (2002: 335, original emphases) is drawn upon in this book but with some qualifications: "First . . . accounting is a *practice* of entering in a visible format a record (an account) of items and activities. Secondly, . . . any account involves a particular kind of *signs* which both *name* and *count* the items and activities recorded. Thirdly, . . . the practice of producing an account is always a form of *valuing*: (i) *extrinsically* as a means of capturing and re-presenting values derived from outside for external purposes, defined as valuable by some other agent, and (ii) *intrinsically*, in so far as this practice of naming, counting, and recording in visible format in itself constructs the possibility of *precise valuing*". Such precise valuation is the central plank that underpins *reciprocity* (balanced, or measure-for-measure) and *commensurability* (inter-translatability between the values of different commodities or items through the use of money of account as a common denominator) in exchange.

Two qualifications on this definition are in order. First, the definition is concerned with accounting as *practice*, whereas the concern throughout the book is with accounting as *inscriptions* or as a discursive archive of cultural memory (see later discussion). Thus, this definition must be interpreted as one that incorporates accounting inscriptions irrespective of how one conceives the relationship between inscriptions and practice. The second qualification is that the definition is invested in writing which endows accounting entries with powerful attributes (to be explored later in the book). This excludes oral accounting which, despite its importance (e.g., Ong, 1982; Goody, 1987), will not be considered here given the focus on inscriptions.

With these two qualifications in mind, the definition is particularly suited to the historical material drawn upon in this book; it does not insist on a particular form of bookkeeping, such as double entry bookkeeping (DEB), nor does it require monetization invested in modern conceptions of money as a basis for valuation, which allows discussing accounting inscriptions in societies without coinage money, such as ancient Egypt (for opposing views to those espoused here see Littleton, 1981). As will be demonstrated throughout the book, accounting can construct values in the absence of coinage, as long as there is a 'money of account' that functions as a common denominator to signify constructed values.

Not every accounting inscription entails constructing and placing valuations on items. Traditionally, accounting has been restricted to recording financial transactions. However, over the last few decades quantitative non-financial and qualitative measures began to be developed and gain prominence in accounting (for example, the three non-financial quadrants of the Balanced Scorecard). The issue now is: under what conditions would concrete or abstract counting be considered strictly as counting and when would it count as accounting? This is a problematic issue and the approach adopted here is concerned with heuristic distinction: if counting exists only on its own without being linked to a set of accounting inscriptions that have the capability to construct values, then it will be treated here as pure counting. Alternatively, if counting is deployed within accounting so that the outcome of counting is an input into a larger set of accounting inscriptions, whether or not such counts are always converted into values, then counting will be considered as part of accounting.

Accountability is invested in religious, social, and moral codes of behaviour. It entails rendering accounts by someone to others and to self about one's conduct (Roberts, 1991). Accountability is a pervasive way of making sense of the world by rendering it observable and reportable (Garfinkel, 1967). Two forms of accountability can be distinguished: institutional and folk (Ezzamel, Robson, Stapleton, and McLean, 2007). Institutional accountability takes the form of explicit and formal organizational requirements that detail to organizational members modes of conduct and performance. In contrast, folk accountability emphasizes adherence to tacit institutionalized forms of behaviour through which individuals legitimate their conduct to colleagues and to themselves. Accounting inscriptions can be the basis of an accountability that is invested in meeting previously specified targets of performance; yet accountability is much broader than accounting, for not all forms of accountability have to be based upon the vocabularies, numbers or values that accounting constructs.

With this basic understanding of accounting, the remainder of this book aims to develop strong connections between accounting and performativity, accounting rituals and myths, and the role of accounting in constructing and sustaining cosmic and worldly order. Accounting is here conceptualized as a performative technology that produces and secures order. While this chapter is mainly conceptual, at the empirical level the relationship between accounting and order is historically contingent and shaped by a variety of social patterns that are formed at different temporal and spatial junctures in human history.

CONCEPTUALIZING ORDER

> "we are continually confronted, in history, with the diverting circumstance that there continually figure in its pages large numbers of moral, sensible men and scholars and lovers of the human race who make it their prime object in life to behave as morally and as sensibly

> as possible-to, as it were, enlighten their neighbours by proving to them the possibility of leading, in this world, both a moral and a sensible existence. Yet what is the good of all this? We know that, sooner or later, many of these philanthropists undergo a change, and display phases of a most unseemly order." (Dostoyevsky, *Letters from the Underworld*, 1913: 36)

Although "the thesis that sociology is centrally concerned with the problem of social order has become one of the discipline's few orthodoxies" (Dawe, 1970: 207, cited in Burrell and Morgan, 1979: 10), order is one of the most ill-defined and under-theorized concepts in social theory. Pioneering sociologists, including Weber, Durkheim, Pereto, and Parsons, not to mention philosophers such as Lovejoy, have all been preoccupied with the problem of order, yet the concept of order remains problematical. Some scholars simply sidestep the definition of order altogether and proceed with their analysis as if every reader knows precisely what order means, or avoid the question of definition because they think it is troublesome. Take, for example, the seminal book by Parsons (1937/1968), *The Structure of Social Action*, widely believed to be an important treatise on social order (see Alexander, 1982), yet nowhere in the book is the concept of order defined. Similarly, in the three volumes by Rieff (2006, 2007, 2008) published under the umbrella title, *Sacred Order/Social Order*, order as a concept is not articulated. Further, Lovejoys' (1936) masterpiece *The Great Chain of Being* is fundamentally concerned with the question of order, a great philosophical treatise into the question of the universe and the constitution of the world from Classical Greece to the Romantic era, yet no attempt is made to develop the concept of order theoretically. Perhaps Giddens (1972) is correct in suggesting that the problem of order is one of the great myths in the history of social thought. Maybe after all, order is a "'veil of illusion' indispensable to the human condition" (Assmann, 2005: 7).

Other scholars have confronted the question of how order could be defined, and the outcome has been a collection of varied statements that emphasize some particular aspects of what order is deemed to signify, frequently at the expense of others. Typically, the question of order in social theory has been coupled with consideration of how action becomes interrelated and ordered (Alexander, 1982: 90). The literature on order explores two themes: the form/level of order, where a distinction is drawn between individual, voluntaristic order, and collective order; and the motivation underlying human behaviour that maintains a state of order whereby three perspective exist: rational; normative, and theoretical utility.

Voluntarism vs. Collectivism

Those concerned with voluntarism focus on the individual as a self-constituting atom distanced from social control, and assume that the only viable level of order is the individual in his/her resilience, uniqueness, and passion (Atkinson, 1972). Order is achieved as individuals spontaneously identify their personal interests with what are deemed general interests through their feelings of sympathy for each other, and egoisms are harmonized of their own accord to the benefit of all. To be free, individuals are assumed to be atomized (see Halévy, 1972, for a criticism of this). Dostoyevsky (1913), in his *Letters from the Underworld,* alludes to how an individual could act against what is deemed to be his/her best interest as an exercise in demonstrating individual freedom and asserting personal identity, and in doing so would "proceed to introduce chaos and disruption into everything" (ibid: 37). Further, this strand of literature provides no discussion of how the 'rules of the game' that shape what is taken to be the essence of collective order are developed.

In contrast, order can be the outcome of collective endeavour, as exemplified by Hobbes' (1660/1991) *Leviathan*. Hobbes' analysis begins with a state of disorder, such as war, where notions of just and unjust and right and wrong have no place because of the absence of sovereign power and law. Purely individual interaction results in chaos:

> "And therefore if any two men desire the same thing, which neverthe-less they cannot both enjoy, they become enemies; and in the way to their End, (which is principally their own conservation, and sometime their delectation only), endeavour to destroy, or subdue one another." (ibid: 90)

To overcome chaos, Hobbes advances the notion of the power of the sovereign, as the prototype of supra-individual collective force; an artificial man (*Leviathan*) that emerges as the body politic (the state) with responsibility to preserve peace both within and outside the state (ibid: Ch. 18). The role of the sovereign, therefore, is to "expunge all possibility of war from within the body politic, and to hold off the enemy without" (Forsyth, 1988: 143) thus enforcing order both internally and externally.

Ibn Khaldun, in his path-breaking Al-Muqaddima (1379/1991), shows remarkable awareness of the importance of both collectivism and voluntarism in creating and sustaining social order. While emphasizing the importance of governors (his equivalent of Hobbes' *Leviathan* or body politic) to the attainment of order, Ibn Khaldun underscored the necessity of appreciating the interdependence between human society and the state. For Ibn Khaldun, the individual acting alone could not ensure obtaining neither necessary food nor security which could be secured only via the division of labour in society which then requires the presence of the state in order to curb the aggression of humanity. Society is not static; rather it is an organism that obeys its own inner laws, and although individuals can impact the course of events their influence is marginal. Society is made up of individuals who order their relations with the world and with each other in line with the rules and laws that individuals learn through personal experience, family, and cultural milieu. Deeper values, however, emerge from the functioning of society and are reproduced independent of individual wills.

Rather than take society as a homogenous construct, Ibn Khaldun stresses the interaction of two groups: nomads and town dwellers each has its own type of order; rural and urban. Rural communities whose lives tend to be satisfied with the necessary, remarks Ibn Khaldun, have no garrisons, nor walls, nor gates to protect them, lead an egalitarian life, and their members have to bear arms, be alert and daring, and support each other by drawing on asabiyya (an Arabic word meaning solidarity; cohesion; affection and attachment to those of the same blood) in order to keep their communities secure. Asabiyya is not an ideal that is learned; rather, it is transmitted spontaneously from one generation to another and is to be found at the level of preservation instinct. Town dwellers, in contrast, are protected by garrisons, walls, gates, and governors on which they become dependent; they also lead a more materially comfortable life. Their communities go through cycles of five generations: the first dynasty works hard to assert order on existing chaos; the second builds and strengthens established order; the third begins to reap the benefits of stability; then during the fourth, over-consumption of pleasure and pursuit of leisurely lifestyles become the norm, and corruption begins to spread; all these manifestations of disorder take a stronghold during the fifth dynasty as chaos reigns, calling for the intervention of a new regime to re-establish order, and so the cycle continues.

Securing order through collectivism frequently entails an exercise of violence. Whether one is talking of Hobbes' *Liviathan* (body politic), or Ibn Khaldun's governors, submission by subjects to higher authority marks an implicit acceptance of violence, which is typically exercised when subjects are judged to have transgressed laws or rules, as we will see in the case of ancient Egypt. Even in less hierarchical societies, like those identified by Ibn Khaldun in the rural communities he studied, asabiyya entails a form of coercion for members of the community are expected to comply with group norms as a demonstration of social cohesion and group solidarity.

Moving on to more contemporary debate, Bull (1977) attributes three sets of goals to order: elementary (life without violence); primary (truth so that promises are kept); and universal (property is respected and positions remain stable). Order in each of these domains is understood to be attained via a pattern of human activities which is the outcome of organized action, and as Aho (1981) notes, action can at the extreme take the form of warfare carried out in the name of re-establishing order. Yet as Harle (1998: 4) notes: "life, truth and property do not define or establish social order, but become possible only through or by social order. If there is no social order, life, truth, and property as well as other values simply lose their sense." Such theories of collective order focus upon collective instrumentality which, Alexander (*op. cit*: 100) notes, yields an anti-voluntaristic, deterministic analysis because it ignores the mediating role of societal normative elements:

> "Collective order is reduced to the external, objective elements of action. . . . If an instrumentally collectivist position is adopted, then, 'motivation' as an explicit explanatory concern drops out of sociological theory, and the voluntary component of action disappears."

Motivation Underlying Orderly Human Behaviour

The rationalist perspective, which assumes that order is maintained by instrumental means alone, is dismissive of collective internal order based on the view that because internal commitments are subjective, they are not 'real', do not possess any sanctioning power, and cannot provide an answer to the order problem. The normative perspective, which emphasizes subjective means to maintaining order, contends that shared internal commitments are held to generate too much order and are therefore antithetical to the realization of voluntarism. Alexander (ibid: 105) counters these criticisms by arguing that "The notion of collective order actually need never deny free will in an individual case: it can and usually does refer to the probability that individuals will act in a patterned fashion, not to the certainty that any individual will so act." Thus, instrumental action is only one way to achieve collective order which can also be secured by subjective 'non-rational' norms. Similarly, Parsons (1937/1968) emphasizes the importance of normative action and couples it to collective order.

The theoretical utility perspective conceptualizes order as harmonious, social tranquillity in the absence of struggle (Dahrendorf, 1959; Eisenstadt, 1968) characterized by pervasiveness of common belief in sacred traditions in society (Shils, 1975). In contrast, Wallerstein (1984) contends that non-equilibrium (or disorder) and conflict are more typically the source of order; a society moves along a trajectory that has both states of order and disorder with order as the equilibrium position. It is only through the construction of order that disorder can gain its meaning: "the sudden creation of an Order confers backward signification to the preceding Chaos" (Žižek, 1989: 144).

These particularist treatments of order yield a dualistic situation where order signifies equilibrium and disorder conflict and disequilibrium. To move beyond the problems of dualism and determinism, Alexander calls for a "multidimensional", "thoroughly generic conceptualization" of order. He (ibid: 124) suggests that the best way to understand order is by disentangling it from action and by admitting both voluntarism and collective order, just as Ibn Khaldun has argued long ago. Alexander further stresses the central importance of concern with action and order in social theory and the impact on theoretical logic. Only by acknowledging the separation of action and order, he argues, can the full potential of the logic of social theory be explored:

> "Decisions about action and order are the most fundamental issues to confront any social theory: the positions taken in regard to them structure each theory's most general logic. Only if we recognize that they represent truly independent choices can we recognize the range of permutations that this general logic actually implies. Commitments to rational or nonrational action are not necessarily congruent with, or antagonistic to, commitments to any specific approach to social order." (ibid: 122)

Irrespective of whichever perspective on order is adopted, throughout history humans have been concerned with the desire to attain a state of order. Order is about how objects, subjects, and practices are arranged in non-random social patterns; it is concerned with the production of 'arrangements' or 'patterns' which include patterns of behaviour and beliefs (Dermer, 1988). Organization, coherence, standardization, and systematization are manifestations of order. Similarly, sorting, avoidance of randomization, and dividing objects and subjects into categories or groups are means of achieving order (Bateson, 2000). Such a generic approach to understanding order is consistent with Douglas (2002: 48) who underscores the drive for consistency and integrity of cultural patterns achieved through ordered relations, irrespective of whether the emerging patterns produce conflict or harmony, or whether they are radical or conservative. Bauman (1993) connects the maintenance of order to keeping society structured by administering social space (knowledge, meaning, relevance). The traits of 'outsiders' are considered a feature of ambivalence, the very antithesis of order, emanating, for example, from meanings socially attached to such things as 'dirt', 'unreliability', and 'laziness' which signify disorder in contrast to 'cleanness', 'rule-based calculation', and 'routine' which signify order. In other words, for him chaos (e.g., dirt) is the creation of order.[1]

The literature thus far has been concerned with social order. Order also relates to cosmology or nature. Cosmic order inspires humans in the way they arrange their social world. Plato (1929, *Timaeus*: 53b) saw creation as the means by which god imposed order on the chaotic universe and perceived human action as an imitation of the orderly acts of god (ibid: 47b-c). In Plato's *Republic*, the organization of society is "above all a matter of order, of hierarchy; each particular man in his place must contribute to the global order" (Dumont, 1972: 44). Order can therefore be extended from the cosmic to the worldly, covering such domains as the social (human community, the self, and identity), the political (e.g., the ancient Egyptian idea of Pharaoh as a ruler sanctioned by the gods), and the economic (e.g., measure-for-measure reciprocity in exchange relations). These dimensions are intertwined and complementary: fear of a disorderly cosmos can act as a powerful incentive for people to observe order in the political, social, and economic domains. Similarly, belief in the existence of economic order, for example, may be taken as evidence of social and political order. However, conceptions of order can also be competitive; for example, despite the politicizing and intertwining tendencies of internal-societal order and global order, they may place conflicting demands for the attainment of order (Touraine, 1991: 2).

Order also implies some measure of recurrence and repetition; for if everything is novel, then the continuous novelty of phenomena would signal the unfamiliar and disorderly. It is through recurrence and repetition that a notion of history is possible, as history signals a state of order. Vico (1968) sees in repetition the possibility of history, and indeed humanity. For Vico (ibid: 425), as humans seek to pursue their follies, for example, lust, power, and exploitation, they end up, through the application of their minds, developing institutions, such as marriage and laws, that emphasize repetition to reduce the scope for such follies and produce order. It is worth noting that repetition for Vico does not mean a deterministic, preordained, automatic replication or recurrence through which order and history materialize, for he sees difference within each repetition. Said (1991: 113) sums up Vico's ideas succinctly:

> "Take history as a reported dramatic sequence of dialectical stages, enacted and fabricated by an inconsistent but persistent humanity, Vico seems to be saying, and you will equally avoid the despair of seeing history as gratuitous occurrence as well as the boredom of seeing history as realizing a foreordained blueprint. And never mind if epistemologically the status of repetition itself is uncertain: repetition is useful as a way of showing that history and actuality are all about human persistence, and not about divine originality."

These institutions (e.g., marriage, the law) that bring about order in society according to Vico may well be the institutions that perpetuate the 'folly' of order; that is, the *impression* that a state of order obtains under them. Yet, Vico's views (and those of most scholars discussed here), may be criticized for constructing a 'benign' notion of order that either ignores or at best marginalizes the connection between order and violence. This connection will be discussed briefly in various parts of this book.

PERFORMATIVITY AND ACCOUNTING

This section explores the notion of performativity, makes some connection between performativity and accounting technology, and then examines the role of performative rituals and myths, such as accounting, in sustaining and perpetuating order.

Performativity

As this book is concerned to advance the notion of accounting as a performative technology that constructs and underpins order, a clarification of the meaning of 'performativity' is necessary. 'Performativity' can assume a variety of meanings. For example, Austin (1962) distinguishes constatives (merely descriptive statements) from performatives (utterances leading to an action that generates effects), while others do not link cause and effect between the signifier and the world (Parker and Sedgwick, 1995: 2). Butler (1993, 1997, 1998) has contributed significantly to the conceptualization of performativity, and her work has been informed by the ideas of a number of influential scholars, including Freud, Lacan, Austin, Searl, Althuser, and Foucault (Hodgson, 2005: 54).

Butler (1993: 225), building on the understanding that a performative is a discursive practice that enacts or produces what it names, argues that "Performative acts are forms of authoritative speech; most performative, for instance, are statements that, in the uttering, also perform a certain action and exercise a binding power". The conduct of performative rituals, such as giving an account based on inscribed accounting entries, effaces the distinction between talk and action by virtue of the "apparent coincidence of signifying and enacting" (ibid: 198). Repetition, or citation, of coded utterances or conduct is a key part to the understanding of performativity (Derrida, 1988: 18) because, as Hodgson (2005: 55) notes, utterances are institutionalized citations of previous performances, a reiteration that links performativity and rituals, institutions and social structures. Performativity is not a 'singular' act; to the extent that it seems act-like it conceals the conventions of which it is a repetition.

Repetition is a form of "reiterated acting that *is* power in its persistence and instability. This is less an 'act', singular and deliberate, than a nexus of power and discourse that repeats or mimes the discursive gestures of power" (Butler, 1993: 225). Citation and repetition as echoes of prior authoritative practices accumulate a force (or as Butler, ibid: 225, dubs it ´a historicity of force´) of authority that results in the performativity of rituals as utterances and texts, or as forms of discourse. Thus, the history of discourse not only precedes but also conditions its contemporary usage, in the process decentering the view that the subject is the exclusive author of a particular discourse. The performative power of a particular discourse is impacted by the power of political mobilization (Žižek, 1989), and as we will see in the case of ancient Egypt, the state organs, in particular the priesthood and the scribes, were mobilized to produce performative discourses that were aimed at constructing cosmic and worldly order.

Butler (1997) stresses the non-fixity of performative speech acts because they are 'excitable'; thus the meanings and effects of speech acts cannot be fixed by the intentions or authority of the speaker, for once they are uttered they are out of the speaker's control. Specifically, speech acts are capable of performing alternative meanings to those intended: "The problem is not simply that, from a theoretical point of view, it makes no sense to assume that intentions are always properly materialized into utterances, and utterances materialized into deeds, but that the insights into those sometimes disjunctive relations constitutes an alternative view of the linguistic field of politics" (Butler, ibid: 92). How does this conceptualization of performativity connect to accounting?

Accounting and Performativity

Gambling (1987: 326) suggests that "accounts are not only a record of the rituals they describe, but also a part of the ritual themselves." Later, the notion of accounting as ritual is developed and connected to myth and performativity, but for now the pertinent question is: what does it mean for accounting to be performative? Paraphrasing MacKenzie (2006a: 29) when he talks of economics, for accounting to be performative it has to be *doing* something; in Austinian terms it has to motivate actions that generate effects, rather than being constative by simply describing something or by being a mirror reflection of an 'external' reality. Callon has provided an important lead in viewing economics, and incidentally also accounting, as a performative technology. Callon (1998: 47) argues that rather than describe markets or the economy, economics is a discipline that performs markets and the economy; hence we should only talk of 'the laws of the markets' rather than 'the market' as different economic theories are capable of constructing different markets. In this view, economics brings the economy into being by creating or constructing the phenomenon it supposedly describes. A theme that underpins Callon's thesis is how the discipline of economics and the practices associated with it render economics practicable and applicable. As MacKenzie (2004: 305) observes:

> "The economy, Callon points out, is performed by economic practices, including marketing and accountancy, and by the all-pervasive practices of metrology (the bringing of disparate and what could be regarded as qualitatively distinct entities within standardized systems of quantitative comparisons, such as weights and measures)".

The following discussion builds on Callon's work and its elaboration by MacKenzie and others to argue the case for the performativity of accounting. While it is assumed that in the economic sphere accounting functions as a technology of quantification and valuation that prescribes to the norms of economic rationality, the aim here is to expand the thesis of accounting's performativity by reference to the broader understanding that accounting has the ability to construct the world, so to speak, rather than by theorizing its qualities strictly from within economics.

In the context of understanding the performativity of financial economics, MacKenzie (2006b) describes four types of performativity: generic performativity, effective performativity, Barnesian performativity, and counter-performativity. Generic performativity is a weak type, simply implying that both economists and practitioners make use of the same concepts, theories, data, and models. Effective performativity is the type in which a discipline, such as economics or accounting, makes a difference, such as, for example, the Capital Asset Pricing Model having resulted in the development of index funds. Barnesian perfomativity is a type whereby a model creates the world it inscribes such that the world conforms to the model, and as an example MacKenzie cites the Black-Scholes Merton model. Counterperformativity is the type where the practical use of a model renders processes less like their articulation by the model; hence the model undermines its own empirical validity, for example, as in the case of the portfolio insurance in the 1987 stock market crash. MacKenzie has been concerned with identifying the performativity of specific models or innovations in financial economics, whereas the concern in this book is with the performativity of accounting as inscriptions in a more general form. In the course of analysis in this book, it would be of interest to explore what forms of performativity ancient Egyptian accounting inscriptions produced.

To argue that accounting is performative begs the questions: what does accounting do? And what effects do its inscriptions produce? An initial problematic is that the discussion of performativity emphasizes speech, or utterances, as the medium through which rituals are exercised and performativity occurs, and hence some might argue that written texts (such as accounting inscriptions) are seemingly excluded. If such a conception of performativity is entertained, then accounting inscriptions can be conceived as performative only when they are converted into an oral form of speech or utterance. The connection between accounting and performativity is then narrow but clear: accounting utterances promote an action that generates effects, in the Austinian tradition. For example, the vocal announcement of accounting-driven performance targets by a superior to his/her subordinates at the beginning of a work shift leads to specific actions that produce results. Similarly, a post performance meeting between a superior and a subordinate in which the latter's achievements are assessed verbally is performative to the extent that it improves future performance. In this sense, accounting utterances as performance targets make themselves true. This is the straightforward part of the argument.

To extend the connection between accounting and performativity beyond this narrow sense demands greater receptivity to the performative potential of inscribed accounting texts. This requires moving beyond the mainstream view, inspired by neoclassical economics, of the roles of accounting as purely rational and functional. Major strides in this direction have already been made, where accounting is no longer viewed as a technical rational apparatus subordinated to the dictates of economic rationality. A path-breaking paper by Burchell et al. (1980) articulated, and provided legitimacy to, wider and more expansive roles for accounting in organizations and society. In addition to producing economically-rational calculations, accounting is also seen as providing rationalizations of already taken decisions, ammunitions for point scoring in debate, and legitimation for actions and decisions that may not subscribe to economically rational calculations. By emphasizing these roles, the potential to appreciate the political impact of accounting in organizations and society was imaginatively developed. This original and far reaching contribution has been refined and extended further by subsequent researchers (e.g., Ezzamel and Bourn, 1990; Robson, 1991). Moreover, the constructive role of accounting, the argument that accounting does not simply mirror a 'reality out there' but rather constructs a view of reality that we come to engage with and act upon, has become well established within the discursive and critical variants of accounting research (e.g., Hines, 1988; Ezzamel and Willmott, 2008). It is with these contributions in mind that the discussion of the connection between accounting and performativity will be extended.

Within this broader understanding, some preliminary points connecting accounting to performativity are in order. The act of inscribing accounting entries is a form of conduct that can be interpreted as a performative ritual: by producing accounting books according to a long-held bookkeeping tradition, the inscribing of accounting entries can be understood as a performative ritual that underpins not only an orderly way of bookkeeping, but also an orderly world constructed by the accounting entries. As Gambling (1987: 326) perceptively notes "for the magic to work, the rituals have to be validly performed", because if the conduct of the accounting ritual is shown to be consistent with what is socially understood to be valid, belief in the ritual becomes widely held and hence the ritual will 'work' or become performative (ibid: 321). To move beyond Gambling´s argument, accounting rituals are not passive respondents to a static view of what is construed as socially valid: these rituals actively construct, or at least impact, what becomes accepted by society as valid. Accountants can be seen as custodians of a bookkeeping tradition, and as experts entrusted by society the task of ensuring that order prevails through the conduct of repeated rituals of accounting entries, just like priests are entrusted to conduct religious rituals in temples on behalf of society.

As the rites of inscribing accounting entries become taken-for-granted (Meyer and Rowan, 1977), accounting becomes an institutionalized technology. Such taken-for-grantedness mythologizes accounting: accounting becomes so natural a phenomenon that it can be elevated to the level of myth; a myth that is taken to embody the ideals of organizations and society. Accounting thus ritualized and mythologized constructs an orderly world that begins in accounting books and extends beyond them into institutions and society by creating a belief that the representation of orderly bookkeeping mirrors order and coherence in the world. As myth, accounting can be thought of as a system of communication; a kind of speech in the form of written discourse (Barthes, 1973) that conveys a message about the subjects and objects of its concern. Of course, the world as perceived by the scribes could be chaotic and disorderly, yet the image of orderly accounting inscriptions imposed by them on such a perceived world creates precisely the opposite effect. Kemp (1989: 130) argues that in the context of ancient Egypt:

> "For the ancient scribe, however, the order belonged to his inner mental world. When he rested his pen and looked up from his sheet of papyrus the scenes that met his eyes may well have been a good deal less orderly. Indeed, the essence of the act of writing (and of drawing) is to reduce a complex and often chaotic reality to a comprehensible order."

This is a neat way to show the power of inscription and those who undertake it, in this case the scribes of ancient Egypt, but Kemp's quote assumes that these scribes have a privileged access to 'how the world really is', instead of appreciating how it comes to be constructed into particular terms through inscriptions.

The view in which inscribed texts are considered performative appeals to a broader argument that links texts to performativity. Indeed, all texts (a text is a retrieved communication), whether oral or written, are 'speech acts' (Assmann, 2006: 103–104, 108) as we will explore more fully. This view admits the quality of performativity to inscriptions enumerating, counting, measuring, and valuing objects and subjects. Such inscriptions range, for example, from offerings to the gods in the name of securing cosmic order, through gift giving to kings and ordinary citizens and accounting for activities in the public domain, such as palaces, temples, and state projects, to accounting for private business and exchange, invoking accounting inscriptions in various kinds of decisions and by individuals rendering an account of conduct to others and self.

As a performative set of repetitive discursive practices, accounting inscriptions are productive of the effects that they name, regulate, and constrain. In this book, accounting is seen as a temporally and spatially bounded performative ritual, evidenced in individuals/institutions conducting a repetitive (both over time and across space) public account of their activities. In later chapters, the analysis demonstrates how accounting played this role in various domains in ancient Egyptian life, in the netherworld, and in the cosmos. The book aims to show that, as a performative ritual, accounting mediates relationships between those who govern (e.g., the Pharaohs) and those who are governed (the rest of society), and those who govern in the name of god (e.g., the Pharaohs, as providers of offerings to the gods) and the gods (as protectors of society) in the repeated conduct of inscribed records, all with significant performative consequences. These potential modes of performativity can only be alluded to here at a rather general level; the extent to which this performativity maps onto the classifications offered by MacKenzie (2006b) has to await the more detailed analysis attempted later in this chapter and in the remainder of the book.

Order, Performativity, Rituals, and Myths

> "'We continue our ancient customs so that the universe can continue to exist,' an Eskimo said to Rasmussen." (quoted in Assmann, 2006: 14)

The quote underscores the performative power of rituals in ensuring that the world remains in an orderly state: by conducting specific rites (the action of continuing ancient customs), specific results obtain (the universe continues to exist). Assmann (2006: 126) aptly comments that "Ritual cultures or cult religions typically assume that the universe would suffer or even collapse if the rituals were not performed in an orderly manner." Bourdieu (1977: 114) underscores the importance of appreciating the context in which rituals are performed: "Understanding ritual practice is not a question of decoding the internal logic of a symbolism but of restoring its practical necessity by relating it to the real conditions of its genesis, that is, to the conditions in which its functions, and the means it uses to attain them, are defined." The desire to secure order has been linked to performing rituals in many societies. Douglas (2002: 90) notes how primitive rituals create harmonious worlds with ordered populations. She (ibid: xi) argues that taboo protects "the local consensus on how the world is organised. It shores up wavering uncertainty" and creates stability and order, even though some may argue that this is precisely what taboo can never achieve. Of course, once ritual is mythologized, the discourses perpetuating the myth create the expectation of performative consequences.

Douglas (ibid: 3) connects taboo to the legitimation of 'primitive' rulers who are "backed by belief in extraordinary powers emanating from their persons, from the insignia of their office or from the words they can utter". The legitimation of rulers via taboos invests kingship with order; indeed, order becomes tied inextricably to the perpetuation of a system of ruling elites and their perceived continued power, as evident in the perpetuation and divination of kingship in ancient Egypt. The quest for order is underpinned by the desire to create a world in which rulers (and their 'representatives' such as the priesthood and scribes) affirm that which is recognizable and controllable whilst excluding that which is not fathomable. Thus, order entails both commission and omission; the orderly world rules in and affirms as normal and desirable elements that can be comprehended and established as a schema or a pattern (Dermer, 1988; Barrow, 2000: 72; Douglas, 2002: 45–48) and rules out those elements that are deemed anomalous.

Assmann's (2006) examination of the relationship between ritual and sacred and cultural texts has import for the theorizing of the performativity of accounting attempted in this book. Assmann (ibid: 109) argues that: "With the sacred text the ritual is the essential part, and the discourse during the sacred ceremony is only a part of the whole. In the cultural text, in contrast, what counts is the reproduction of the text, and the ritual merely provides a framework for it." Later, some commentary is provided on accounting inscriptions as texts, but first Assmann's argument concerning texts and their connections to ritual is examined. For Assmann, this distinction produces different roles for ritual and cultural texts, with the former gaining importance in sacred contexts and the latter in cultural contexts. Sacred texts, argues Assmann (ibid: 110), are performative par excellence:

> "With the sacred text it has the function of a performative speech act. When the right words are spoken at the right time and in the right place by the right speaker in accordance with the rules, these words do not refer to a meaning, they create it . . . Thus the sacred text becomes associated with the idea not simply of pointing to what is sacred, but in a sense, of producing it ('theurgically'). This explains the exclusivity, secrecy, and ritualistic nature of sacred texts. None of that has any force with cultural texts, or not to anywhere near the same extent. If they were secret, how could they exercise their normative and formative power and authority on behalf of society as a whole?"

If Assmann's views are to be taken at face value, then for accounting texts to be performative, they must satisfy two conditions. First, they must be similar to sacred texts, at least in so far as being exclusive, secretive, and ritualistic. Second, they must be spoken by the right person at the right time and in the right place, that is, a right subject-time-space nexus. Concerning the first condition, the Egyptian evidence examined later suggests that accounting has a divine feature (see Chapter 4), and if this thesis has validity, then some accounting inscriptions are sacred and Barnesian performative texts in the strong sense implied by Assmann. But then what about non-sacred accounting texts; are they necessarily constative in the Austinian sense? Given the earlier discussion of accounting and performativity, the response cannot be in the affirmative. It therefore has to be argued either that accounting texts are not cultural texts, or that Assmann is wrong in contending that cultural texts are at best weakly performative (generic performativity in MacKenzie's, 2006b, classification). Later on, Assmann (ibid: 120–121, my emphases) argues:

> "Through the process of canonization, cultural texts are treated as sacred texts . . . The position of the canonical text differs from the sacred text that is fulfilled through recitation, but is identical with the cultural text because it, too, demands to be taken to heart and *put into practice*. In the world of ritual coherence, cultural texts *structure* reality because they are communicated in the rhythm of group festivals and rites. In the world of textual coherence life with texts is structured very differently. Because the texts do not exist in living memory, but have been displaced into things like pieces of writing, they assume one

> form when latent in a state of stored presence and another in the act of communicative reproduction."

Assmann thus draws a distinction between sacred and canonical texts, and stresses that canonized cultural texts can be treated as sacred texts; both sacred texts and canonical texts demand to be put into practice. For Assmann, there are two types of coherence: ritual coherence whereby cultural texts structure reality by dint of their communication in festivals and rites, and textual coherence stored or communicated via reproduced texts.

If accounting inscriptions can be viewed as canonized cultural texts, then they are performative by being put into practice, and by their power to structure reality, so they would at least map onto MacKenzie's (2006b) categories of generic performativity and effective performativity. So how canonized are accounting inscriptions? From their most ancient genesis down to the present day, scribes and accountants are schooled in how items to be recorded should be enumerated, valued, and inscribed, and how books of account should be designed. They are also trained to use a technical vocabulary that tends to be noun-dominated. What Said (1991: 145) has observed in the case of literary texts applies with equal force to accounting texts, ancient or modern: "Reading and writing become . . . instances of regulated, systematized production, as if the human agencies involved were irrelevant." This also connects with Foucault's (1972) notion of the discursive field within which a particular discourse, for example, accounting inscriptions, is produced, engaged with, and consumed. The limiting power of a discursive field is that it engenders or assumes consensus on particular ways of producing discourse.

In ancient Egypt, Assmann (2006: 113) notes that the scribes, far from being a special guild, were the representatives (I prefer 'the constructors') of Egyptian culture, and the texts used to educate them should be regarded as cultural texts, and I would add, and so also are the texts they produced, including accounting inscriptions whose production was governed by the cannons of the discursive field in which they functioned. Despite some variations, the manner in which objects and subjects are itemized, inscribed, quantified, and valued in accounting texts is canonized. By being both sacred and canonical accounting texts combine both types of cultural performative texts: one structures reality through sacred ritual coherence, and the other structures reality through canonized textual coherence. As canonized texts, accounting texts also demand to be put into practice (see also Quattrone, 2009).

Assmann (ibid: 123–124) suggests that cultural texts do not only refer to signs but also extend to rites and symbols, and that they structure meanings, facilitate social reproduction, and determine society's identity and coherence:

> "By 'cultural texts' we understand all sign complexes, that is, not just texts, but also dances, rites, symbols, and the rest, that possess

> a particular normative and formative authority in the establishment of meaning and identity. Cultural texts lay claim to an authority that embraces society as a whole; they determine its identity and coherence. They structure the world of meaning in which society makes itself understood, and also the sense of unity, belonging, and individuality that can be handed down through the generations, thus enabling a society to reproduce itself as a recognisable group."

Assmann (ibid: 124) stresses that cultural texts are not static objects fixed in time and space:

> "Cultural texts change with the changing context of a changing present, and it is precisely the cultural texts that are subject to the most radical editorial modifications. This is because it is they, above all, that are concerned to adapt themselves to a changed reality. It is they that must be continually added to and accommodated because they have to be transported from one generation to the next and because they keep finding themselves in a changing environment."

Thus, for Assmann cultural texts are objects in a state of continuous change necessitated by the changing context of the present; they are passive, receptive, and adaptive to the context in which they function; a rather restrictive view. Leaving aside this concern, Assmann's argument accords cultural texts specific performative roles. For what else is the structuring of meaning by cultural texts and the consequent production of society and identity if not a perfomativity exercise of a potent type? Structuring produces new configurations; even if the elements are the same, structuring entails novel combinations of elements and is thus performative. Structuring through accounting inscriptions produces new modes of identity and new forms of society, hence the performative power of accounting.

Over time, accounting as cultural texts become a store of knowledge concerning transactions and exchanges, a permanent or semi-permanent (Ezzamel et al., 2004) collective memory, or conscious archive, contra Derrida's (1995) unconscious notion of the archive, obviating the need to rely upon memory and its possible failings. The notion of the text as part of an archive advocated here is closer to that of Foucault (1972) who speaks of the 'archival facts' which define the text's social discursive status. For Foucault (1968: 19, translated by Said, 1975: 292: original emphases), an archive is not simply a collection of texts, but rather an ensemble of discursive cultural events, their existence as events, and their status as monuments rather than documents:

> "What I shall call an *archive is* neither the totality of texts which a civilization has preserved, nor the ensemble of traces which have been

> saved . . . after its disasters, but the play of rules which in a culture determine the appearance and the disappearance of utterances, their paradoxical existence as *events* and as things. To analyze facts of discourse in the general element of the archive is not to consider them as documents (which have a hidden meaning, or . . . a rule of construction), but as *monuments*."

Texts as a store of knowledge, or collective memory, become a fundamental source through which society is constantly reminded of its cultural heritage in a way that oral memory can never attain, and a liberating experience through which individuals can free themselves from their bonding memories and instead embrace collective societal memories that underpin cosmic/social/religious/economic order. For Foucault, an archive, of which a particular text is part, is made up of discourses which in turn are composed of statements that form a system of cultural diffusion that is tightly organized and controlled by established cannons. Both texts and archives are worldly because they are socially situated. Said (1991: 150) understands the materiality of a text as: "the ways, for example, in which the text is a monument, a cultural object sought after, fought for, possessed, rejected, or archived in time. The text's materiality also includes the range of its authority. Why does the text enjoy currency at one time, recurrency at others, oblivion at others?" Precisely because of this a text, such as an accounting inscription, is dynamic and its dynamism is born out of its worldly qualities. Thus, as a text, the accounting archive is also a store of knowledge:

> "Only with the emergence of writing does cultural memory 'take off' and allow the horizon of symbolically stored memory to grow far beyond the framework of knowledge functionalized as bonding memory. Only cultural memory enables the individual to dispose of his stock of memories and grants him the opportunity to orient himself in the entire expanse of his memory spaces. In certain circumstances cultural memory liberates people from the constraints of bonding memory." (Assmann, 2006: 21)

Later in the book it is argued that the accounting archive plays a crucial role in enabling connective memory to develop and to underpin order. The term 'connectivity' is borrowed from Assmann (2005: 27); it is "a medium that binds elements thought to be unbound into a comprehensive unity". It is argued here that as an archive of cultural memories accounting inscriptions act as a connective force that binds individuals together into an orderly structure entailing the cosmos and the worldly. While the ancient Egyptian contextualization of this contention is emphasized, its relevance and ramifications extend to human society more generally.

ACCOUNTING AND ORDER

This section offers brief reflections on the previous discussion concerning the theoretical connection between accounting and order, followed by an overview of the extant accounting literature that connects to order.

Reflections

This discussion suggests that, especially in pre-modern societies, order was conceived as a means of organizing society in the image of heavenly order, derives legitimacy from this claimed reflection, and is maintained through an assemblage of performative rituals of which accounting is an important part. It is instructive to explore briefly the possible roles that accounting can play in constructing and underpinning order.

Accounting has several attributes pertinent to the construction of order. Even in its most ancient forms (as will be evident in later chapters), accounting is endowed with numerical organization that creates an ethos of order. This includes, for example, arranging entries in tabular or grid format; organizing numbers in sub-totals, totals, and grand totals, matching debits and credits, and constructing account balances. Accounting is a constructor of value and a means of establishing equivalence and value reciprocity in exchange relationships, enabling restitution and the ordering of economic life (Ezzamel and Hoskin, 2002). Accounting operates as time/space ordering devices (Giddens, 1991), because its entries entail designating transactions by precise dates; and locations hence serving to order both temporal and spatial human experience. Moreover, through the use of its metrics and performance reports, accounting technology differentiates, hierarchizes, ranks, and orders populations and social relations (Miller, 1990; Walker, 1998; Carmona, Ezzamel, and Gutiérrez, 2002). Measurement and performance reporting highlight individual responsibility and inculcate a sense of achievement and accountability in the self (Roberts, 1991) which might encourage voluntarism while at the same time promoting collective order by creating a sense of shared internal commitments to quantified group or organizational norms.

As a technology of measuring and valuing, accounting endows certain activities with visibility and hence renders them knowable, thus impacting the choices of which activities are admitted into orderly life. By implication, things that are rendered un-measurable through accounting are left out as unknowable and a form of disorder. Finally, accounting is an institutionalized technology that sustains the *status quo* (Meyer, 1986); a ritual (Gambling, 1977, 1985, 1987); a religious ceremony (Cleverly, 1973) that serves individuals or groups whose interests are identified through the use of accounting. In summary, accounting is a malleable set of techniques that can be appropriated and adapted by interested human agency to underpin a multiplicity of rationales concerned with creating and reproducing order.

In so doing, it also 'produces' an un-measurable terrain that it may aspire to invade and conquer in the future.

Previous Literature

The role of accounting in constructing and sustaining order in organizations and society is little understood. For the last three decades, researchers have attributed roles to accounting that usefully emphasize ritual, mythical, and magical dimensions, at times making explicit connections between accounting and order, but without articulating or developing this connection. For example, Cleverly (1973) argues that accounting functions as a religious ceremony—a rain dance through which key beliefs are preserved and a present state of order is rolled into the future. Gambling (1977; 1987) suggests that accounting, like witchcraft, provides complicated rituals in response to uncertainty by rendering possible the accommodation of 'awkward facts' that a society finds difficult to accept because they contradict widely held beliefs. Gambling, however, does not take the next step by suggesting that in facilitating acceptance of 'awkward facts' accounting masks contradictions with society's widely held beliefs and thus helps perpetuate the particular configurations of order that are perceived to be present at a particular point in time. Boland and Pondy (1983: 224) conceptualize accounting as a set of symbols that help organizational actors order and interpret their experience, as its "categories impose a coherence on chaotic organizational processes". Meyer (1986) notes how accounting operates as an institutionalized, taken-for-granted, practice whereby declared intentions are decoupled from action in order to preserve the *status quo* and sustain order. By legitimizing particular approaches to making decisions (Burchell et al., 1980; Ezzamel and Bourn, 1990), accounting engenders social stability by minimizing the scope for decisions that may introduce unwelcome change and thus destabilize what is understood to be a prevailing state of order. Dermer (1988) explores control and organizational order by emphasizing autonomous activity in order to underscore the importance of recognizing that forces other than senior executives shape organizational order. In his theorizing, Dermer (ibid: 31) postulates that an organization is "a pluralistically determined order" whereby multiple rationalities guide the processes of justification, negotiation and confrontation, with a spirit of cooperation permitting commonality of action among organizational participants. Pentland (1993: 606) argues that "the audit ritual has succeeded in transforming chaos into order", perhaps because audit rituals are performative in promoting rules of compliance in the conduct of activities, but also the existence of these rituals creates a myth of order within organizations. Gallhofer and Haslam (1994a: 245) note how accounting technologies in Bentham's texts focused on disciplining and controlling the poor, by linking them to an "ignoble socio-political order."

Further, accounting helps humans demonstrate their adherence to religious/moral codes of conduct. Gallhofer and Haslam (1994b) argue that for Christians the annual casting up of accounts before God was a means of establishing a sense of coherence in the careful regulation of life, in the hope of bringing rewards.[2] Maltby (1997) briefly links accounting to the mercantile virtue of orderliness, and the Victorian fear of having a commercial system without accountability to the potentially undesirable consequence of creating illusory wealth that corrupts society and endangers its moral order. Walker (1998) suggests that under Protestanism, keeping household accounts signified adherence to accepted social norms such as orderliness and thrift, and contributed to preserving family cohesion and domestic tranquillity by avoiding the emotional trauma of financial difficulties.

Finally, as the opening quote of this chapter suggests, accounting is linked to heavenly order. In commenting on the significance of double entry bookkeeping (DEB) and Pacioli's *Summa*, Thompson (1991: 584, original emphasis) alludes to the connection between accounting and heavenly order: "God himself had worked the world in a mathematical form . . . So it is important to recognise that Pacioli's larger project was to *reemphasise a belief in order sanctified by God*." Moreover, Maltby (1997) suggests that for Goethe, accounting was a metaphor for the natural order: "The provident nature has bound herself to a balance sheet (. . .) (I)f too much has been expended on one side, it subtracts it from the other and balances out in no uncertain manner" (quoted in Maltby, 1997: 83).

This literature valuably connects accounting and order. Accounting is viewed as a technology that underpins social, religious, natural, and moral order, by functioning as an institutionalized technology, a ritual/religious ceremony, a means of disciplining and controlling populations, a mechanism for promoting productive cooperation, and a way of instilling consciousness in individuals to behave in a manner consistent with codes of conduct promoted by society. There are also insightful allusions, as we have seen, to a link, however tenuous, between heavenly order (or cosmic order) and accounting. Yet, these important connections remain largely under-theorized. In none of these studies has the notion of order been articulated or developed conceptually. Linkages made between accounting and order are typically accorded broad-brush treatment, without sufficient explanation of *why* accounting is connected to order, or *how* accounting constitutes order, or *what* specific characteristics of accounting render it a suitable technology for constructing and underpinning order. Missing in this literature is an analysis of how accounting may function as a performative ritual that produces and reaffirms order. This gap in the extant literature is a major motivation for writing this book.

While seeking to build upon the extant literature connecting accounting and order, the intention here is to move beyond that literature in a number of ways. Specifically, the aim is to explore how accounting is intertwined with order, drawing on evidence from ancient Egypt where the worldly and the cosmic were fused into one single sphere of belonging (Assmann, 2002: 170), by exploring several issues. First, how accounting functions as an archive, a connective memory, and a performative ritual and myth that constructs order in the cosmos, on earth, and in the netherworld. Second, how accounting legitimizes and preserves the *status quo* of ordered societies by constructing, reproducing, and sustaining order over numerous generations, even though the precise form of order might be different over time. Third, how accounting is connected to conceptions of time and space, and in turn how this is linked to the state of order in society. Fourth, how accounting technology functions as a mediating institution between gods, kings, and the populace by emphasizing restitution and reciprocity in religious, social, political, and economic spheres. Fifth, to what extent do accounting inscriptions function as a sign system and also as myth that produce and perpetuate order. Sixth, given that the creation and affirmation of order inevitably entails an exercise in violence, whether of the most visible or symbolic form, how do accounting technologies function as mechanisms of violence. Although this book draws extensively upon inscriptions from ancient Egypt, this historical material will be used in the first instance as a means of illuminating and further informing the project of theorizing accounting along these themes.

4 Creation, Order, and Divine Accounting

> "To describe the Egyptian cosmos is also to describe a world of divine beings whose nature is expressed in their respective cosmological domains. These domains are only marginally physical, and in so far as they are physical they are also symbolic." (Naydler, 1996: 14)

Chapter 3 provided, by way of a conceptual background, some discussion of constructs such as accounting, order, performativity, and accounting as a performative ritual, but the analysis was general rather than linked to specific religious, socio-political, or economic contexts. In order to develop this argument further, this chapter begins by exploring the connection between accounting and order in the three realms of the ancient Egyptian universe: the cosmos, the living, and the netherworld. Inscriptions and images relating to these three realms worked in tandem to create and maintain order (Baines, 1991: 129). The following analysis draws on four ancient Egyptian myths connected to order: Creation, the death and resurrection of Osiris, the Contendings of Horus and Seth, and the Day of Judgment. It is argued that the mythical genesis of the ancient Egyptian state and the notions of order associated with it are related to the fear of the destructive forces of chaos, and the belief that cosmic and worldly order can be sustained only by satisfying the gods through accounts of ritualized repeated provisions of offerings with every Pharaoh exercising his sovereign authority and doing *Maat*.

It is worth noting that unlike the case of most ancient societies, the vast majority of ancient Egyptian texts, including literature on cosmology, religion, medicine, mathematics, warfare, literary work, administration, and accounting, have no named author. Typically, these inscriptions exhibit many of the hallmarks of canonical texts, and although some changes in style can be traced overtime, such changes have been kept to a minimum with the clear intention of seeking to create an image of continuity with little or no change. It seems that singling out an individual author, or a group of authors, was alien to ancient Egyptian culture and inconsistent with the collectivist identity of society that was highly espoused. The author is therefore most frequently not simply decentred but conspicuously absent.

CREATION: FROM DISORDER TO ORDER

In the Beginning Was the Deed[1]

There are three myths of Creation in ancient Egypt that explain how the universe came into being. The first relates to the city of Iunu (or Heliopolis) whose creator god was the Atum, the second is linked to the city of Khemnu (Hermopolis) with Djhuty (Thoth) as the creator god, and the third connects to the city of Memphis with Ptah as its creator god (Gahlin, 2010). The analysis in this section is based on the first myth because, compared to the other two, it is the most popular and more detailed inscriptions on it have survived.

The Iunu myth of Creation is known at least from the inception of the Egyptian state around 3300 BCE, and was subject to frequent re-writing thereafter (e.g., Hornung, 1996; Hare, 1999; Assmann, 1995, 2001, 2002). According to the most common version, before the act of Creation there was the Nun, the primeval waters; a form of chaos that sustained and regenerated the world (precosmic and extracosmic chaos; Assmann, 2002: 207). It was a formless void that defies knowledge, an undifferentiated unity as the condition to which the world would revert at the end of time. From these waters, the god Atum (the All; the Complete One) created himself. Thus, rather than 'In the beginning was the Word', the Atum defined himself through action and his godly qualities are best captured by 'In the beginning was the Deed' of Creation. This state designates pre-existence and is not susceptible to being anchored in time or space because it precedes both. Yet, it also signifies the creation of the first order; for in this act of self-creation the god Atum brings original order out of the chaos of the primeval waters (Silverman, 1991: 70). The Atum subsequently created two more gods: Shu (male, signifying air/light/life) and Tefnut (female, signifying moisture/order, the pristine condition of the world or *Maat*), thereby ushering the beginning of primeval time, or cosmic time (First Time associated with the First Creation). This stage also ushers a merger of time with non-temporal or transtemporal order (Naydler, 1996: 91–92). The union of Shu and Tefnut produced Geb (male, signifying earth) and Nut (female, signifying sky), whose union led to four more gods (in some versions of the myth five gods): Isis (female), Osiris (male; initially the eternal king of Egypt but later god of the netherworld), Seth (male), and Nephthys (female). These unions heralded cosmic and worldly order, ushered the beginning of historical time (Assmann, 2001: 121), and endowed time and space with meaning. The act of Creation embodied in the Iunu myth brought the existent into being, a world that is bounded, well defined, positive, and regenerative: in short, a world that symbolizes order. Also, this unfolding of the divine world order is "the establishment of *maat* in the place of disorder" (Faulkner, 1969: 1775b), with *Maat* here clearly signifying a state of universal order.

The nonexistent, symbolized by disorder and chaos, was unbounded, hostile, and negative and attributed to the destructive force of Apep, a huge serpent that perpetually threatened to drink all the primeval waters, leading to entropy and a return of the universe to the state before the self creation of the Atum. Disorder entailed the collapse of cosmic order and *Maat* as the pristine condition of the world established since the creation of the goddess Tefnut, the inversion of social relations, and the dissolution of interpersonal bonds (Assmann, 2002: 176–177). For the ancient Egyptian, the 'here' (this world) and the 'there' (the cosmos) were two sub-spheres that cohered into a single sphere of belonging, and the worldly was intertwined with the cosmic so that if order in either sub-sphere were destabilized disruption in the other would inevitably follow. Thus, disorder was to be avoided at all costs, for it did not only mean a measure of chaos, or anarchy, but more significantly a return to the time before Creation in which the ancient Egyptian world, the cosmos, the earth, and the netherworld, cease to exist. One quote from the *Corpus Hermeticum* describes what this state of disorder would look like (translated by Assmann, 2005: 367–368):

> "There will come a time when it will seem as though the Egyptians had honored the divine in vain with pious hearts and ceaseless devotion, and all sacred attention to the gods will be in vain and its fruits will be robbed. For divinity will ascend back from the earth to the sky and abandon Egypt. This land, once the seat of religion, will now be robbed of divine presence. Foreigners will people this land, and the old cults will not only be neglected, they will even be forbidden. Of Egyptian religion, only fables will remain, and inscribed stones. . . . In those days, men will grow weary of life and cease to marvel at the cosmos (*mundus*) and worship it. . . . The gods will separate themselves from men-O painful separation! . . . In those times, the earth will no longer be stable, and the sea no longer navigable, the sky will no longer be crossed by stars, and the stars will forsake their courses; every divine voice will be forced into silence. The fruits of the earth will be spoiled, and the soil no longer fruitful, and even the air will hang heavy and close. This is the old age of the world: lack of religion (*inreligio*), order *(inordinatio*), and meaning (*inrationabilitas*)."

In ancient Egypt, order (the known/the existent) and disorder (the unknown/the non-existent) were two categories that defined each other as much as being in contrast to each other. We may think of the boundaries between order and disorder as fluid, and of the encounter between them as both threats (more disorder) and opportunities (for expanding order). Does disorder in the ancient Egyptian world refer only to a return to the state before the Atum rose from the primeval waters? Or can disorder prevail along with Creation? The state of disorder described here must be taken as the limiting condition to what could happen to the ancient Egyptian universe, with much less serious forms of disorder capable of coexisting with some measure of order. For example, the so-called Intermediate Periods that separate the Old Kingdom from the Middle Kingdom, and the latter from the New Kingdom are examples of disorder that co-existed with some forms of order (see Chapter 2). Even less serious (for the cosmos and Egypt) transgressions counted as forms of disorder, such as situations in which *Maat* was not upheld by some individuals, incidents of tax avoidance or defalcation, strikes by the workforce, and so on as shown later in the book; these forms of disorder coexisted along with many manifestations of order. While the Iunu myth of Creation offers a fascinating account of the relationship between order and disorder, there are some ambiguities. For example, is the nonexistent (disorder) a category of potential Being that has not yet been transformed into Being? Is disorder more than a Being that is the binary opposition of order? It is difficult from the surviving material to address these questions in a meaningful way.

Time and Space

The interest in articulating the conceptions of time and space in ancient Egypt pursued in this book is motivated by recognition that both time and space are arenas in which accounting functions as a performative ritual. Accounting records are essentially temporal and spatial ordering devices, and it is in the time-space intersection that the unbridled power of the performativity of accounting technology becomes manifest. Conceptions of time and space in ancient Egypt, as evident from the myth of Creation, were interconnected. In ancient Egyptian, the words time and space while written differently had the same determinative, that is the sign that gives finality to the meaning of the word, thus providing a clear indication that for the ancient Egyptians time and space were intertwined. This remarkably insightful conceptualization does not seem to have become accepted until fairly recently, as captured by Elias' (1993: 99–100) intervention that "every change in 'space' is a change in 'time'; every change in 'time' a change in 'space'." Physical space was represented by the three realms of the ancient Egyptian world: the cosmos, the earth, and the netherworld, and in the remainder of this book the analysis seeks to demonstrate how accounting inscriptions underpinned and colonized each of these three realms in the quest to construct and sustain order. Time in ancient Egypt had sacred and secular meanings. There were two concepts of sacred time, *neheh* and *djet*, and Table 4.1 contrasts the key characteristics of these two terms.

Ancient Egyptian time comes into being together with the universe (space), since cosmic time or First Time emerged only after the creation of the gods Shu and Tefnut. Thus, rather than time being viewed as transcendental without a conceived beginning or end whereby events are played out in time but do not affect it, time in ancient Egypt is 'a derived phenomenon, inextricably bound up with the contents of the Universe' (Barrow, 1999: 161). Cosmic sacred time, abstract and entrusted to the gods, was defined by the two words: *djet*, that designated timelessness, the stability of the changeless realm of Osiris, god of the underworld; and *neheh*, or cyclical time, which involved a regular return to the original starting point at the completion of each cycle, signifying perpetual recurrence. *Djet* is the time in which "'something will have been,' the unchangeable duration in which everything completed was stored away" (Assmann, 2005: 371). *Djet* is "the sacred dimension of everness, where that which has become—which

Table 4.1 Conceptions of Sacred Time

Neheh	***Djet***
Day/Re/Life/Sun	**Night/Osiris/Death/Earth**
Dynamic/Change/Occurrence	**Static/Duration of the completed**
Flow of Time/Virtuality	**Resultativity/continuation of the result of completed actions**
Associated with becoming	**Associated with Everness**
Cyclical perpetuity	**Suspended time/Permanance**
Plenitude of time	**Endurance**
Renewed continuity	**Discontinuity**
Imperfectivity	**Perfectivity**

has ripened to its final form and is to that extent perfect—is preserved in immutable permanence" (Assmann, 2002: 18). As eternal time, *djet* is associated with notions of stability, lasting, permanence, discontinuity, endurance, resultativity, and perfectivity. Just because it is seen as the opposite of *neheh*, or cyclical time, *djet* does not signify linear time; rather it is the suspension of time, for it refers neither to the past, nor to the future. Time in *djet* is at standstill and only moves in *neheh*.

Neheh was 'the time of "so long as something is" which could be viewed only from within its course, which renewed and repeated itself regardless of the passing of the hours, the days, and the years' (Assmann, 2005: 371). *Neheh* was associated with Re, the sun god, who each day embarked on a recurring round journey covering the whole day (across the sky) and night (across the netherworld), which signified unending time, or ceaseless renewal and eternal return. *Neheh* time is about endless renewal and regeneration.

As Bell (1998, f.n. 10: 283) notes, the words *djet* and *neheh* "define overlapping aspects of eternity or infinity, and both are connected with the redemptive aspect of sacred time". Rather than being binary oppositions, *neheh* and *djet* are a complementary duality that defines and encapsulates total sacred time. Assmann (2002: 243–244) notes "*Neheh* (cyclical infinitude) and *djet* (unchanging permanence) were joined by 'history' as the third aspect of time . . . The time created by Amun encompassed the events—themselves the work of Amun's will—that happened in it."[2] Time is not cyclical 'in itself': "Cyclicality is rather a cultural form imposed on the world by semantic and ritual efforts" (Assmann, 2002: 207). Rituals were assumed to ensure salvation in the form of a renewal that defies death and destructive inner chaos. Cyclical time was manifest in numerous observable aspects: e.g., the inundation of the Nile, the succession of day and night; the rotation of the seasons; the recurring phases of the moon; and migration of fish and birds. Cyclical time signifies immortality, a condition that the gods achieved but also humans can aspire to achieve through good deeds and salvation in the after life. Cyclical time is a time that "runs back into itself" (Assmann, 2005: 359) and it entailed the life cycle of the gods and kings who "participated in an eternal cycle of death and rebirth" (Bell, 1998: 130), whereby life and death were seen as reciprocal states of existence. In contrast, secular time signified un-relentless forward movement, such as the differing phases of life cycles, which can neither be avoided nor repeated. This linear, historical time was the prerogative of Pharaohs as reflected in their fate-determining actions on earth.

Maat and Order

Maat, the pristine condition of the world, signified 'righteousness', 'truthfulness' (Lichtheim, 1992), and importantly order. As Assmann (2006: 33–34) notes, *Maat* was "the principle of universal harmony that manifests itself in the cosmos as order and in the world of human beings as justice . . . *Maat* contains the idea of the all-inclusive divine or religious foundation of all order". Assmann (ibid: 35) calls *Maat* an invisible religion that operated two spheres of order: order in the moral and political cosmos and order in the sacrificial, cultic, or religious cosmos.

Maat was an ethical register, one from which codes of conduct may be derived. On the Day of Judgment each deceased person had to demonstrate that s/he upheld *Maat* or else the body would be immediately eaten up, and thus annihilated, by the 'devouring goddess'. As Bell (1998: 128) argues, *Maat* gave meaning to life by ordering the human and divine worlds. *Maat* was the most significant medium of connective memory in ancient Egypt, one that fixed and immortalized individual identity through survival beyond death in the collective memory of the community. *Maat* was "not only the principle of social but also of temporal connectivity, of permanence, endurance, and remembrance, of the continuity of past and future" (Assmann, 2005: 55). Endurance was therefore achievable for a person in the form of life in Eternity, that is, in *djet*-time.

Maat had a stronghold on the minds and souls of the ancient Egyptians and was the ethical aspiration they had to observe in life. For example, the Instruction of Hardjedef states:

> "Make excellent your house in the west [tomb],
> And richly prepare your seat in the necropolis

As one who does right (or, “through righteousness”)
And as one who does *maat* (or, “and by the doing of *maat*”),
For that alone is what the heart of a man can rely on.”
(translated by Assmann, 2005: 373)

Similarly, the *Instruction of Ptahhotep* speaks of *Maat* as lasting, effective, and unchallenged since the dawn of history, and underscores the punishment of those who transgress it (Lichtheim, 1975: 64). *Maat* was invoked in much of the wisdom literature that sought to draw a code of ethical conduct, detailing what an ethical individual must do or refrain from doing. By observing *Maat*, the individual connected with society, and through the redemptive power of *Maat* secured eternal life and a lasting place in the netherworld. No wonder, in the surviving Egyptian autobiographies, many individuals boasted of their upholding of *Maat* as their greatest virtue (Lichtheim, 1988: 1992).

As Assmann (2002: 170) notes, “*Maat*, the quintessence of the laws that welded humans into a community, was regarded as the holiest of the holy, the supreme essence of all life-serving and salvational values”; an ancient framework of ethical accountability that transcended the gods, the Pharaohs, the living, and the dead, for to observe *Maat* was to discharge one’s responsibility as an ethical subject. *Maat* was intertwined with political power, because Pharaoh was responsible for upholding *Maat* on earth in order to ensure the continuity of the universe. A variety of rituals were performed to keep the forces of disorder at bay, including the recital of 24 hymns, each at its appointed hour daily by the Pharaoh (or presumably someone deputising for him) to facilitate the safe passage of the barque of the sun god Re as he travelled across the sky and the netherworld amid forces of chaos (Assmann, 1995), the annual slaying by the Pharaoh of the hippopotamus that destroyed crops, and various representations of the Pharaoh smiting the enemies of Egypt (Wilkinson, 1994).

The Iunu myth of Creation, therefore, provides an important backcloth to an understanding of the mindset of the ancient Egyptians. By examining this myth, we have been able to unearth a number of important themes that run throughout ancient Egyptian thinking: order/disorder; sacred and secular time and space; *Maat*. These themes will be drawn upon frequently in the subsequent analysis throughout this book. But it is to the other three myths that the discussion must now turn.

ORDER, COUNTING/ACCOUNTING, AND RESTITUTION: THREE MYTHS

This section is concerned with exploring the connections between counting/accounting and three important ancient Egyptian myths: the death and resurrection of Osiris, the Contendings of Horus and Seth, and the Day of Judgment.

The Osiris Myth

The Iunu Creation myth discussed above is concerned with the imposition of order over chaos, a theme that recurs in the Osiris myth. The god Osiris was appointed by fellow gods as the eternal king of Egypt. His jealous brother, the god Seth, engineered a trick whereby Osiris was trapped inside a coffin and thrown into the Nile. Isis, Osiris's wife and sister, found and brought home Osiris' body but Seth found out where she had hidden it. Seth inflicted on Osiris a second killing (in ancient Egypt a second killing was a fatal one from which there was no comeback), severed Osiris' penis, and threw it into the Nile, where it was swallowed by an animal, divided his body into 42 parts and buried them each in a different part of Egypt, and illegitimately claimed the Crown of Egypt for himself. Isis patiently unearthed the dismembered parts of Osiris's body, re-assembled them along with a replacement penis that was subsequently used to impregnate her to conceive their son and Osiris' heir Horus. This reassembling of the parts of the body with an artificial penis to produce a new re-presentation of Osiris in the form of his son Horus shares the essential features of all re-presentations: never a one-to-one correspondence to what was there before.

The Osiris myth bears strong connections to both order and disorder. The murder of Osiris, the legitimate ruler of Egypt appointed by the gods, is an evident incidence of violence committed by Seth against the state of order as underscored by *Maat*. The claiming of the Crown of Egypt by Seth is yet another violence visited upon the state of order ordained by the gods. An interim measure was taken to reduce this violence as the god Geb took over the Crown of Egypt until the situation is resolved legitimately, resulting in a state of suspended order. The restitution of the body of Osiris by Isis signalled some form of return to order, as a reversion of violence. Such restitution can be seen to be linked to *Maat*, for it marked a return to the pristine condition of the world, or order, in which Osiris, although now dead, still had a full, and seemingly functional body, if only to produce his son Horus. Rather than continuing to rule the living in Egypt, an impossible task for a dead god, Osiris became god of the netherworld.

There is also another connection to order in this myth. The hacking of the body of Osiris by Seth into 42 parts and their burial in different parts of Egypt ushered a state of order in which the land of Egypt from then onwards came to be 'measured' in 42 nomes invested in the body of Osiris. The body of Osiris became a symbol of Egypt, as a unified, ordered country. From this very early stage in ancient Egyptian history, number (42 nomes) and counting (performed by both Seth and Isis each with a different purpose), became intertwined with the violation and restoration of order. The counting that takes place here, both as violence to and restoration of order, is concrete counting in which one number corresponded to one part of the body, and one part of the body corresponded to an ancient Egyptian nome, with the reassembled full body as the simple addition of all the nomes of ancient Egypt.

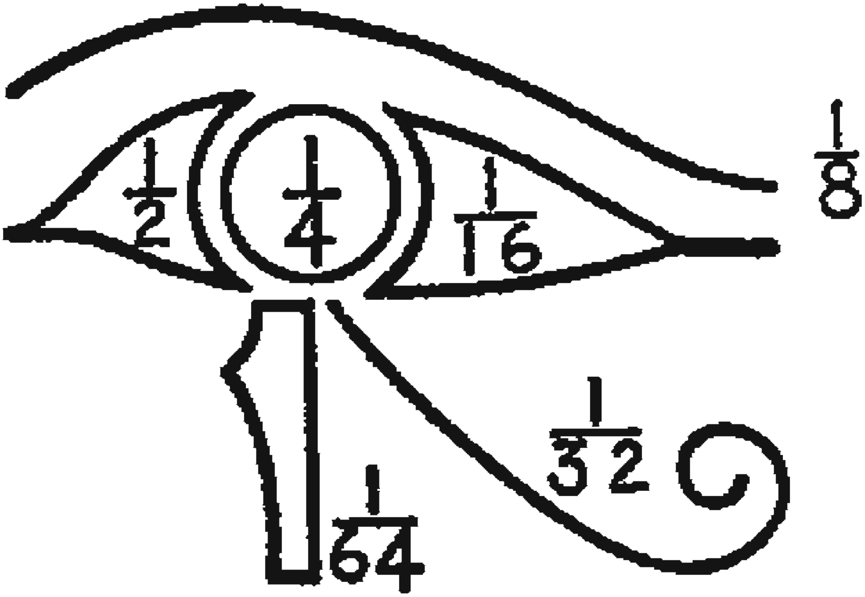

Figure 4.1 Horus Eye fractions.
**Source:* Horus-Eye fractions from A.H. Gardiner, Egyptian Grammer, 3rd ed., Oxford 1957, p. 197

The Contendings of Horus and Seth Myth

Once a grown up, Horus embarks on avenging his murdered father by fighting his uncle Seth. In 'the Contendings of Horus and Seth' (Clark and Rundle, 1978), Horus fights many battles with Seth, ultimately emerging victorious. The gods rule that the throne of Egypt is given to Horus, signifying the triumph of order over chaos, and the return to *Maat*. In one of the battles with Seth, one of the eyes of Horus is shattered. Djhuty (known as 'Thoth' in Western writing following the Greek mis-pronouncement of his name), the god of writing, record-keeping, and time, collects, counts, reassembles, restores, and renders an account of the Eye of Horus:

> "I came seeking the eye of Horus,
> that I might bring it back and count it.
> I found it [and now it is] complete, counted and sound,
> so that it can flame up to the sky
> and blow above and below . . ." (Clark and Rundle, 1978: 225)

Several implications emerge from this myth. First, Djhuty *counts* the parts of the Horus Eye, using one-to-one correspondence (concrete counting) of each part measured as a fraction of the full Eye (see Figure 4.1), and reassembles them, thereby ensuring that restitution of the Eye takes place.

Djhuty thus engages in a public act of counting the Eye fractions, and as a result of this myth of performative counting restitution of the Eye occurs so that the parts of Eye are "complete, counted and sound". Second, and despite the claim of completeness above, restitution, like representation, is never entirely complete as the restored parts of the Eye of Horus add up to only 63/64 of the complete Eye. Thus restitution reconstructs a different reality which nonetheless marks a return to a new state of order. Third, The Eye of Horus becomes an indispensable *counting* tool used by the scribes in their accounting inscriptions: a system (known as the Horus Eye fractions) that arranges fractions into an ordered, descending geometric series ½, ¼, 1/8, . . . , 1/64. This system was deployed throughout ancient Egyptian civilization to order offerings to the gods, and to ensure reciprocity and restitution in economic and social activities related to the state, in the temples, and in the private domain, in the process constituting and reaffirming rank and social status (Ezzamel, 2002b, 2002c, 2004)[3]. The Eye of Horus thus becomes intertwined with a new way of seeing, for now the scribes can partition anything, be it a bull or a loaf of bread, into smaller parts, thereby facilitating a new level of economic exchange and wealth distribution. The link between the Eye of Horus and the visualization of activities through the use of accounting numbers, or metaphorically seeing through accounts, is evidently already there. Fourth, from then onwards, kingship, order, and disorder become associated with violence, for Seth took kingship from Osiris by force, and Horus reclaimed it by violence as the right and legitimate heir to his father Osiris. Thus, the doing of *Maat* and the preservation of order go hand in hand with an exercise in violence that is construed as belonging to justice and truth. This interpretation has performative consequences that extend beyond myth into representations of reality. Narmer, the Pharaoh credited with uniting the two kingdoms of Upper and Lower Egypt for the first time in history and thus creating order at the level of nation statehood, is represented on the famous Narmer Palette striking his enemies with a mace. This violent, corporal way of asserting order serves as the limit of one of the two extremes that Machiavelli (1514/1995: 8) offers as the means for a prince to secure order "men must be either pampered or crushed".

In this myth, Djhuty performs two operations: he counts parts of the Eye as objects while simultaneously converting each part into a unique ratio. The Eye becomes countable with different parts, each calculated to have a unique 'value' assigned to it, even though no part is indispensable if the Eye is to be reconstructed and if good vision is to be restored to Horus. These two operations combine some aspects of what Power (2004) calls first-order measurements (in which counting becomes possible) and second-order measurements (whereby the Horus Eye parts are aggregated as a set of fractions) through which the Eye becomes knowable, re-assembleable, and orderable. The Horus Eye fractions become detached from the context of the combat between Horus and Seth, as they travel beyond this myth to become normalized, universal tools of calculation mobilized in accounting for all domains of activity throughout ancient Egyptian history.

The Day of Judgment Myth

Emphasis upon *Maat*, reciprocity, and order is evident in other ancient Egyptian myths, in particular the myth of the Day of Judgment which was an indispensable part of ancient Egyptian religion. In the representations of the Day of Judgment, the deceased is brought to the hall of judgment to face his/her 'eternal' fate. Figure 4.2 shows the process whereby the deceased (on the left) is being led by the jackal-headed figure to face the outcome of judgment. His heart is placed on the left side of the heavenly scales and a feather, representing *Maat* as justice, on the right side. The scales are connected to order in a most direct way, with *Maat*, the goddess of order, in her feather-headed representation placed at the top of the central part of the scales. The process is endowed with legitimacy, transparency, and order with the gods, representing each of the ancient Egyptian nomes, watching over (in the top register), Osiris, god of the underworld, setting on his throne also watching, witnessing, and overseeing the process (on the far right), and the god of record keeping Djhuty (the ibis-headed figure) holding the scribal pallet, accounting for, and inscribing the deeds of the deceased.

In what resembles a court of the netherworld, the process of sustaining order is represented as a public exercise for all to see. The way the register of the representation is designed speaks unequivocally of order: the gods in the upper register are arranged in an orderly manner, the deceased is led to face up to the outcome of the weighing scales on the left side of the register (and to the counting and accounting that Djhuty performs), with the weighing scales and those in charge of it visibly shown, and the process of weighing performed in view of all the gods representing Egypt, Djhuty, and Osiris, accompanied by the goddesses Isis and Nephthys standing behind Osiris. For the organization and transparency of the procedures

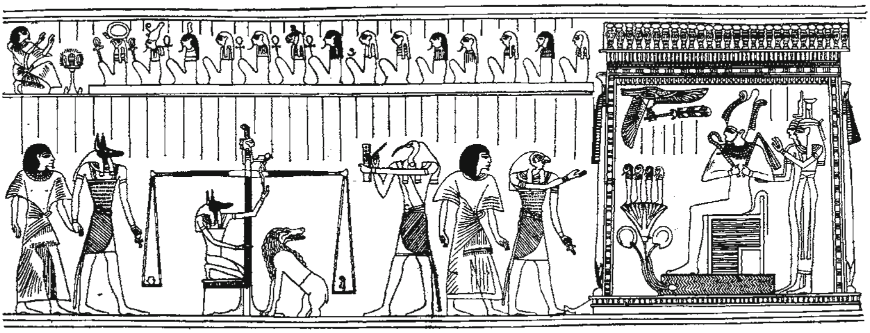

Figure 4.2 Day of Judgment.
**Source:* Judgement scene from papyrus BM 9901 (Book of the Dead of Hunefer)

of judgment unequivocally underscore the centrality of order to the ancient Egyptian world and the impartiality of its procedures.

This image, or representation, of the Day of Judgment can be 'read' as conveying several sign systems, with different signifiers and signifieds (Saussure, 1974; Barthes, 1973, 1977). For example, the image can be taken as a signifier of the Day of Judgment and the sign as the inevitability of judgment. Alternatively, the image can be interpreted as a signifier of the process of eternal judgment, the signified being the proceedings of judgment and the sign the visibility of the proceedings and their fairness given the presence of the heavenly scales and the goddess *Maat* atop the scales. Yet another 'reading' of the image might emphasize inscription (the pallet and writing pen held by Djhuty) as the signifier, the god Djhuty and accounting as the signified, and the centrality of the role of Djhuty and accounting/recordkeeping to the proceedings of the Day of Judgment as the sign. No doubt, other signifiers, signifieds, and signs could be 'read' into this image.

This emphasis on *Maat*, balance, reciprocity, and order is reproduced most poignantly in real life, in daily exchange transactions. In Figure 4.3,

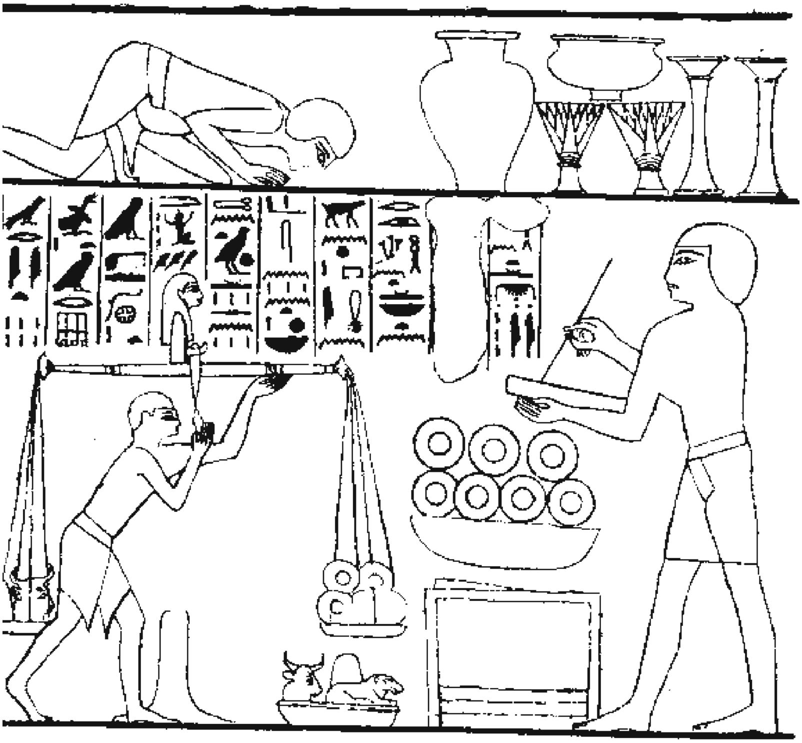

Figure 4.3 Scribes weighing gold, silver, and oxen.
Source: Weighing Scene in TT 181 (Nebamun); N. de garis Davies, The Tomb of Two Sculptors at Thebes, New York 1826, pl. XI

a set of scales identical to those shown in Figure 4.2 are reproduced, with the goddess *Maat* at the top of the central part of the scales, except that now commodities exchanged replace the heart and feather, and Djhuty is not represented as overseeing the exchange process, although of course he may be assumed to be ever-present in the minds of those involved in the translation. Deputizing for Djhuty in person is none other than the scribe who is in charge of valuing and recording the transaction. This representation also reproduces the same emphasis upon visibility, transparency, and public conduct that are an important part of the representation of the Day of Judgment. The representation underscores the centrality of order as an ideal in the conduct of everyday activity, and the importance of emphasizing the impartiality of the process of observing *Maat* and reciprocity. In their daily lives, the expectation therefore was for the ancient Egyptians to enact cosmic and religious harmony and order by reproducing them into their daily life. This representation anticipates what Barthes (1973: 81, emphasis in original) notes of the significance of the scales: "One reckons all the methods with scales, one piles them up on each side as one thinks best, so as to appear oneself as an imponderable arbiter endowed with a spirituality which is ideal and thereby *just*, like the beam which is the judge in the weighing."

DJHUTY: THE DIVINE SCRIBE

Djhuty evidently plays a central role in counting/accounting for, and inscribing, a variety of deeds in the myths of the Contendings of Horus and Seth and the Day of Judgment. This begs the question: why was Djhuty privileged such an important role in these two myths? What particular skills did he possess in order for him to be the choice of the pantheon of the ancient Egyptian gods to occupy such a central position? This is important in the context of this book, because Djhuty was the god of bookkeeping and counting, as well as the patron god of the scribes of ancient Egypt.

If we follow Derrida's (1981) account of the standing of Djhuty among the important ancient Egyptian gods alluded to briefly in Chapter 1, then it would be rather difficult to justify or understand why Djhuty had such a privileged role in these myths. Derrida contrasts the positions of Djhuty and Amun-Re (a unity of the two gods Amun and Re) mainly in terms of how they are depicted in the *Phaedrus* and accords Djhuty a marginal role. Commenting on the account in the *Phaedrus* whereby Djhuty gets permission to speak to Amun-Re about his knowledge of numbers, calculation, time, science, and writing, seeking Amun-Re's approval, Derrida (ibid: 86) argues: "In the *Phaedrus*, the god of writing is thus a subordinate character, a second, a technocrat without power of decision, an engineer, a clever, ingenious servant who has been granted an audience with the king of the gods." For Derrida, Djhuty is a second with a subordinate character because he has no power to bring his various skills into being without prior higher authorization; for this to happen Amun-Re has to sanction these skills. Further, Derrida (ibid: 87) asks: “Doesn’t he [Djhuty] have the same place in Egyptian mythology? There too, Thoth [Djhuty] is an engendered god. He often calls himself the son of the god-king, the sun-god, Amon-Ra”, and thus for Derrida Djhuty had no independent identity or personality for he is forever condemned to be indentified via connection to some other god.

Derrida’s analysis aims to place Djhuty in an inferior place as a second and subordinate god not only because he is presented in the *Phaedrus* as one with no power to make decisions, but also because he lacks originality and the ability to create or invent. Thus:

“The subordination of Thoth [Djhuty], the ibis, the eldest son of the original bird [Amon-Re], is marked in several ways: in the Memphite doctrine, for example, Thoth [Djhuty] is the executer, through language, of Horus’ creative project. He bears the signs of the great sun-god. He interprets him as a spokesman, a standard bearer. . . . he occupies the role of messenger-god, of clever intermediary, ingenious and subtle enough to steal, and always steal away. The signifier god. Whatever he has to enounce or inform in words has already been thought by Horus. Language, of which he is depository and secretary, can thus only represent, so as to transmit the message, an already formed divine thought, a fixed design. The message itself is not, but only represents, the absolutely creative moment. It is a second and secondary word. And when Thoth [Djhuty] is concerned with the spoken rather than with the written word, which is rather seldom, he is never the absolute author or initiator of language. On the contrary, he introduces difference into language and it is to him that the origin of the plurality of languages is attributed” (Derrida, 1981: 88).

The praise of Djhuty as clever and ingenious is a thinly veiled criticism that only serves to place him in his ‘proper place’, according to Derrida’s interpretation, as a second, a signifier, an executer, a transmitter, a messenger, an interpreter, but never one who is capable of invention, initiation, or authorship. These higher qualities of invention, initiation, and innovation are, according to Derrida, beyond Djhuty’s limited abilities and are instead the privilege of higher status gods, such as Amun-Re and Horus. Even the message Djhuty transmits is only fixed in design and only represents but does not bear variation because it is divine and hence canonized. For Derrida, Djhuty is but a top class, supremely competent, yet dull technocrat, a bean-counter and bookkeeper par excellence, a view that almost overlaps perfectly with how accountants nowadays are widely perceived in the public eye. The possibility that in the act of representation Djhuty constructs a different reality is denied him by Derrida.

Derrida’s characteristically brilliant analysis also betrays the limitations of being trapped within a particular text, rather than being informed by inter-textual material. Had Derrida elected to examine other textual material on ancient Egyptian myths, he may well have tempered significantly the tone of his treatment of Djhuty. Without exception, ancient Egyptian gods exhibited some human-like qualities which reflected a measure of vulnerability which, if we take Derrida's analysis at face value, would devalue their status. This point can be clarified via two examples relating to the gods Geb and the Atum. The prestigious position of Geb in the ancient Egyptian Ennead is unquestionable, being the first of two descendants (along with Nut) of the first pair of created gods (Shu and Tefnut), and the parent of the next five gods including Osiris, Isis, and Seth. Yet, this great god was, like humans, capable of making mistakes! After Seth killed Osiris, and Horus began his battles with Seth, Geb sought to intervene as a peace maker and offered the crown of Upper Egypt to Seth and that of Lower Egypt to Horus. But thereafter Geb realised he had made a mistake and set about to correct it by offering the crown of the whole of Egypt to Horus:

> "Bad it was in the opinion of Geb [or Geb regretted]
> that the share of Horus was equal to the share of Seth.
> Then Geb gave Horus the heritage of his father,
> For he is the son of his son, his first-born.
> Geb speaks to the Ennead; I have declared [Horus] you to be successor to the throne."
> (Translated by Assmann, 2002: 40–41)

So, just like any human, the god Geb was also capable of making mistakes. Even more significant, Spell 80 of the Coffin texts show that the Atum, the all-powerful creator god, needed the support of his son Shu in order to create a resting place for himself in the Nun, the primeval waters (Watterson, 1996: 25). The need for support as well as rest betrays human-like qualities, yet nonetheless, this is not interpreted as a weakness or a marginalization of the power of the creator god. As Watterson (ibid: 20) sums it up:

> "The stories told about Egyptian gods, often by their own adherences, show that the Egyptians regarded those deities as a class of being much like themselves: they had the same need for food and drink; they could suffer pain, age or death; they had the same vices and virtues, they were just apt to commit acts of folly, treachery or trickery, as a fallible human being . . . In spite of this, the gods of ancient Egypt were beings to be respected, for it was only through their beneficence and goodwill that Egypt prospered, as she undoubtedly did, for over three thousand years."

That Djhuty is shown in some textual sources to perform the role of a functionary or a messenger to other gods should not necessarily be taken, as Derrida does, to imply subordination or inferiority, for this representation is a way of imparting some human frailties to him, as was the case with all the gods of ancient Egypt.

It is therefore not surprising that, in contrast to Derrida's marginalization of the importance of Djhuty, numerous ancient Egyptian texts accord Djhuty a significant place in the realms of both the Ennead and society. In the ancient Egyptian society that elevated the importance of *knowledge* above all else (Assmann, 2002, 2005, 2006), Djhuty was revered for his knowledge of hieroglyphics and computation. He was the god of speaking, writing, counting, record keeping, and time. Djhuty was renowned among all the gods for his skill in writing, and was entrusted to keep all records of the gods. Writing by Djhuty was held in the highest possible esteem by the gods, for a text that is written in Djhuty's hand had the hallmark of both divinity and unparalleled skill. He was the sacred repository of knowledge, the scribe to the gods, and a god of order and peace: "the skill of his words brings order to warring factions" (Hart, 1986: 215). With his cult going back at least to Dynasty One, 2920–2770 BCE (Watterson, 1996), Djhuty was responsible for recording all the souls entering the Underworld, and in charge of recording the outcome of the balancing of the heart of the deceased against *Maat* (the feather) on the Day of Judgment (Figure 4.2). He was also the god entrusted by all other gods to collect the shattered pieces of the Eye of Horus, to count and reassemble them so that Horus could regain his full eyesight (Figure 4.1). Inscriptions made by Djhuty were an important ritual intended to signal a state of order. To sum up, Djhuty was "God of the moon and hence of the calendar, time computation, mathematics, writing, science, and even the afterlife, because he established the result of the Judgement of the Dead. [Djhuty] was the overseer and protector of the scribes" (Assmann, 2005: 486).

Yet, despite this key role in the ancient Egyptian world, surviving inscriptions and images do not say much about what else Djhuty did, nor what other inscriptions he performed, nor how he accounted for things. However, his connection to scribes and their activities was most direct; he was their god-patron, watching over them so that they did not abuse their skills in order to obtain illicit gains (Hart, 1986). His cult was powerful, as evidenced in shrines kept for him in scribal homes, and libations made by the scribes to him at the start of each day's work (Watterson, 1996).

There was also another dimension to Djhuty's skill in relation to game playing, time keeping, and significantly *creating* time which is assumed to have had a major impact on the construction of the ancient Egyptian civil calendar. The ancient Egyptian year was made up of twelve months, each month of thirty-day duration. But the keen ancient Egyptian eye realised that the earth goes around the sun approximately once every 365 days. Meanwhile, because of previous over indulgence, Geb and Nut had been forbidden by their father Shu from having sex, but Nut so much desired to have children. In order to gain sufficient time to have sex and bear children, Nut resorted to a trick by asking Djhuty, also reputed to be her lover, to play a game of dice. Djhuty loses the game and in return creates for Nut five new days during which she gives birth to her five children to complete the Atum ennead. These five days are also known in the ancient Egyptian calendar as the five epagomenal days devoted to festivities and not related to any specific month, but added to the 360 days to produce the Egyptian full solar calendar of 365 days (Watterson, 1996: 29). This act of creating time that Djhuty performs goes against the grain of Derrida's contention that Djhuty was incapable of invention or creation.

The above myths demonstrate that counting and accounting for objects, deeds, and conduct had a symbiotic relationship and played a major part in ordering the world of the ancient Egyptians. In contrast to Western societies where it has been argued that different ways of counting and calculations "have been borrowed from domains such as engineering, actuarial science, and economics" (Miller and Napier, 1993: 632), in ancient Egypt counting was already there from the genesis of the myth of Creation, and continued through the myths of Osiris, the Contendings of Horus and Seth, and the Day of Judgment. Given the strong evidence on the rise of accounting before, or at the very least simultaneously with, writing in ancient Egypt (Davies and Friedman, 1998; Ezzamel and Hoskin, 2002), the genesis of counting is inseparable from the genesis of accounting.

Further, these myths suggest that, from their genesis, counting and accounting were invested in divinity. At the most basic level, the connection between accounting and divinity can be ascertained through the medium of writing, which constituted a dimension of divine presence, with the hieroglyphic script canonized as "divine speech" (Assmann, 2002: 238). Accounting as a form of inscription was equally endowed with this dimension of divinity. As the god of record-keeping, the connection between Djhuty and accounting is evident, for at that level record keeping was a godly occupation. This divine connection is reinforced by recalling that the occupation of the scribal goddess Sheshat was also writing *and* accounting (Wente, 1990: 99). Further, given Djhuty as the god of order and time, with time and space for the ancient Egyptians being intertwined, the three myths are indicative of a strong link between accounting, divinity, order, time, and space. This rather brief reference will be elaborated throughout the book where it will be argued that accounting in ancient Egypt functioned as an ancient time and space ordering device.

If the contention that accounting in ancient Egypt enjoyed a strong link to divinity has any validity, then it could be argued more generally that the association between Djhuty and accounting implies that, from its inception, the connection between accounting and order was both temporally and spatially embedded. These suggestions are in sharp contrast to much of the extant literature that connects accounting and religion, where the focus is upon functional, housekeeping, and monitoring issues with accounting viewed as a profane, unwanted activity that intervenes in the sphere of the sacred (e.g., Flesher and Flesher, 1979; Laughlin, 1988; Swanson and Gardner, 1988; Booth, 1993; Duncan et al., 1999; Lightbody, 2000; but see Quattrone, 2004; Ezzamel, 2005, 2009). By challenging the view that restricts the role of accounting to the domain of the profane, major new opportunities for the theorizing of the roles of accounting in organizations and society open up.

ACCOUNTING AND THE ORDERING OF SACRED TIME AND SPACE

This section seeks to take the analysis of the connection between accounting and order one step further by exploring how accounting technologies ordered sacred time and space in ancient Egypt. Even though the level of detail concerning accounting in this context is rather limited, it is possible to forge a number of connections between accounting as an ordering technology and sacred time and space implicated in the myths discussed above. It is in the Iunu myth of Creation, especially in its earliest stages, where it is most challenging to make such a connection. Before the Atum rose from the Nun (the primeval waters), there was neither time nor space, and hence it is not possible to think of the existence of any form of accountability, counting, or accounting. This was a stage where it was impossible to conceptualize anything, even at the level of the cosmos or the gods. With the emergence of the Atum as a self created god, things do not get any easier in terms of thinking about time, space, or accounting. The only space one might envisage is that of the primeval waters, and the only time is that of the moment the Atum rose from the Nun, but these categories still elude conceptualization because both time and space remain undifferentiated concepts. Hence, it is more sensible to talk of this episode as one where neither time nor space existed or had meaning.

As we move into the early stages involving the emergence of the ancient Egyptian Ennead, certain concepts of time and space begin to emerge, but these are somewhat difficult to grasp. The time that we now encounter is sacred or cosmic time (First Time) associated with the creation of Shu and Tefnut, and historical time associated with the birth of the remainder of the Ennead. Any doing of *Maat*, if that was at all possible to envisage, during cosmic time would entail cosmic notions of order involving the triad of gods: the Atum, Shu, and Tefnut. Similarly, any connections that could be contemplated, if at all possible, between *Maat* and space would have to be at the level of cosmic space, a space that is not susceptible to sensible articulation or measurement. In this case, would it be sensible to talk of any conception of counting and accounting? In contemporary civilization, cosmic time is measured in light years, which almost defies the comprehension of non-specialists. Further, cosmic space in our contemporary thinking entails limitless space. Does it then make sense to speak of notions of counting and accounting, however rudimentary, in cosmic time and space before or even at the moment of Creation? If it is at all possible to engage in such a contemplation, what forms of counting and accounting were there at that time and in that space? Ancient Egyptian inscriptions are silent on these matters, perhaps because neither time nor space could be defined by them at this stage of creation. If a form of counting/accounting was implicated in cosmic time and cosmic space, then we are here in the presence of technologies that we have never encountered before, an accounting/counting designed by the gods for the sole use of the gods, forms of accounting and accountability that are beyond anything that the human mind might envisage.

As the myth of Creation progresses to the stage when the remainder members of the Ennead, but not humanity, are born, more concepts of space (e.g., Geb = earth; Nut = sky) begin to emerge and with it, one would assume, concepts of time, although these are never articulated in ancient Egyptian texts. Once this stage is reached, would it be stretching things too far to contemplate the possibility that some notion of godly *Maat* was already at work, one that underscored order, justice, and righteousness between the gods? If this thinking is at all possible to entertain, what forms of counting/accounting were developed and deployed in this godly notion of accountability? We will never know, because, yet again, the ancient texts are silent on these issues. Although the game of dice played by Nut and Djhuty involved counting/creating the five epagomenal days, it is not until we encounter the Osiris myth that notions of accountability (enshrined in *Maat*) and counting begin to emerge in a form that can be comprehended. In the Osiris myth, Seth is held responsible for the brutal murder of his brother Osiris, for cutting up his body into 42 parts (counting) and burying them, and for de-stabilizing intended godly order by illegitimately claiming the crown of Egypt for himself. In this myth, counting, and accounting for the body of Osiris through the patient work of his sister and wife Isis, takes place across time (that juncture of history) and space (the 42 nomes) in the process of restoring order. Even such an early stage signals a scope for the intervention of the technologies of counting and accounting, embryonic as it may be, in time and space.

The connections between counting/accounting, order, time and space take on a further step of refinement in the myths of the Contendings of Horus and Seth and the Day of Judgment. In the Contendings of Horus and Seth not only do we encounter a more explicit incidence of counting of the parts of the Eye of Horus, but we also come across the accountant par excellence in the form of Djhuty, god of recordkeeping and time. Here, for the first time in ancient Egyptian mythology, we have a skilled bookkeeper who intervenes armed with his craft of counting/accounting/recordkeeping, into the space between the two combatants at the time of the shattering of the Eye of Horus, to look for, collect, count, assign values to, and then assemble the scattered parts of the Eye, and in the process invents the Horus Eye fraction system. Here we have the first clear example of the performative power of the accounting craft, for it re-creates the eye and renders it as functional as before. Not only is the intervention of accounting performative in the sense of reassembling the Eye of Horus, perhaps more fundamentally it is performative in its capacity to reverse disorder (the shattering of the Eye) and reaffirm order by restoring Horus' eyesight. The counting/accounting craft, and its most celebrated practitioner (Djhuty), therefore assume a central role in the affirmation of order between the gods.

In the myth of the Day of Judgment, we witness yet again the intervention of the godly scribe, Djhuty, along with his pallet and of course his stock of trade, counting/accounting for the deeds of the deceased person, in the space where, and the time when, the proceedings of judgment are conducted. In this myth, it is the record keeping performed by Djhuty that ultimately decides the fate of the deceased, either to live for ever in the netherworld (order) or to be annihilated by the devouring animal waiting by the scales and hence disappear out of existence (disorder). Djhuty has a complete record of all the deeds of the deceased, good and bad, and appears in the representation as a dispassionate expert accountant who, armed with his meticulously kept book of accounts, has irrefutable evidence that determines the fate of the deceased, summed up by the balancing of *Maat* against the heart. In this representation, Djhuty and his craft (counting/bookkeeping) literally dominate the spatial and temporal dimensions of the image that is the representation of the Day of Judgment. Apart from the person operating the scales, it is Djhuty and his bookkeeping that are closest to the scene of judgment, endowing it with an aura of calculation, objectivity, fairness, justice, and order. This is yet another telling example of the performative power of counting/accounting and recordkeeping, one in which recordkeeping as inscription has a definite and lasting impact on the deceased. This accounting for judgment is also connected to space in another sense; for accounting for the deeds of the deceased impacts his/her body as a fragment of mobile space, rendering the body a site not only for quantified or itemized good and bad deeds, but also as an ultimate space upon which punishment will be meted out or salvation will be granted.

The performative power of counting/accounting in the inscribed myth and artistic representations of the Day of Judgment is performativity at the *level of discourse*. What is meant by this is that it is a form of performativity that is inscribed into the ancient Egyptian texts, most prominent among them is the Book of the Dead (Wallis Budge, 1923) where the inscriptions at the level of discourse are intended to convey an account of what will happen on the Day of Judgment. But the performativity of counting/accounting goes further. For all those who were involved in inscribing the text, or drawing the artistic representations, as well as those reading and interpreting them, the performative power of these inscriptions would have seemed self-evident, and would have had a strong impact on them. The inscriptions and artistic representations would have instilled a belief that in order to be justified on the Day of Judgment and gain eternal salvation, one would have had to have behaved as an ethical subject not only by following the codes of conduct spelt out in the wisdom literature, but above all by observing and upholding the essence of *Maat* as truth, justice, and order. Only then would one's balance sheet contain sufficient assets to secure salvation. In contrast to civilizations that celebrate individualism, the procedures of the Day of Judgment while seemingly focussed on the individual bearing responsibility for his/her actions underscore the importance of the connectivity of the individual to society. For by insisting upon upholding of *Maat* by each individual as the quintessential requirement for having a healthy balance sheet on the Day of Judgment, society is also emphasized: "Justice [*Maat*] refers to a life in harmony with the connective structures that make community possible, both with one's fellows and with the gods" (Assmann, 2002: 133). Assmann (2006: 89–90) emphasizes the importance of this point by noting that:

> "the ancient Egyptians based morality on the relationships that bind human beings to their community, and defend memory as the decisive precondition of human association. . . . The Egyptian concept for this connective memory that establishes individual identity and membership of the community is called *maat*. *Maat* even promises to confer immortality on this identity, in the form of survival beyond death in the social memory of the group."

In the end it is after all the performativity of the balance sheet drawn by Djhuty on the Day of Judgment, with the counting of the good and evil deeds of the deceased, that establishes whether or not the deceased has observed *Maat* and behaved as an ethical person, and hence whether or not s/he belongs to the community.

5 Pleasing the Gods

Order and Accounting for Offerings

> "I made their hearts not to forget the West [place of burial], in order to make god's-offerings to the gods of the nomes."
> (The creator god citing one of his four great deeds, Spell 1130, Coffin Texts, Faulkner, 1978: 167)

> "I have come to you, my arms full of *maat*,
> And no contrariness in my body.
> I have not knowingly told a lie,
> I have not coveted the belongings of another.
> I have done *maat* for the lord of *maat*
> And have calmed the light eye for its lord.
> I have given divine offerings to the Ennead
> And mortuary offerings to the ancestral spirits.
> Open up for me, that I may enter into your midst,
> I am one of you!"
> A deceased Pharaoh addressing the gods, Theban Tomb 183, translated by Assmann, 2005: 60)

These two quotes underscore the importance of making offerings to the gods. In the first quote, no less than the Atum, the creator god, makes the provision of offerings to the gods compulsory by creating humans in a way that ensures that they never forget making these offerings. Godly offerings therefore were not a matter of choice or indeed an act of piety on the part of humans, but an essential requirement and indeed a basic trait of being human. In the second quote, the Pharaoh as a super human and a deity in his own right, reaffirms this human duty by stating explicitly that he gave offerings to the Ennead (the nine Egyptian gods beginning with the Atum; see Chapter 4) and to the ancestral spirits. It is also clear that the Pharaoh connects the provision of godly offerings to his doing of *Maat*, as justice, truth, and order. This stipulation of offerings by god and king is a manifestation of a dependency relationship between gods and humans:

> "The gods and the dead need the offerings of the living, and the main reason for making the offerings is their symbolic expression of this all embracing mutual dependence." (Assmann, 2002: 134)

For the ancient Egyptians, making offerings to the gods was a means of sustaining order in the ancient Egyptian universe. Temple offerings were just like prayers in the temples, both being important rituals believed to perpetuate order. Maintaining order in the cosmos, via offerings to the gods, secured order on earth; for the ancient Egyptians these two spheres were connected. As Naydler (1996: 163) argues:

> "in the ancient Egyptian world there was a basic continuum between nature and the supernatural, and furthermore, a sense of self-location within the divine-natural world order. The ancient Egyptians did not see themselves and the natural-supernatural world as functioning independently. Their experience of themselves in the world was primarily participatory. In all the temples of the land, what took place was by no means simply 'worship' of the gods. It was rather the performance of rites that ensured the maintenance of the world order."

This chapter argues that making offerings to the gods and accounting for these offerings was, just as worship, a performative ritual or rite that for the ancient Egyptians ensured the continuation of cosmic and worldly order. The aim here is to examine accounting for godly offerings and to show how this was connected to constructing and underpinning order in the ancient Egyptian world. The material that the chapter draws upon comes from different sources: dedication texts, offering lists, calendars of feasts, detailed inscriptions on the outside walls of temples, papyri, and artistic representations. All these sources contain entries of offerings made by Pharaohs to named gods, which could recur every day, every year, or during specific festivals that were fixed in the ancient Egyptian calendar. For example, Ramesses II declares (Kitchen, 1996: 570):

> "I have endowed for him [god] the sacred offerings: regular daily offerings, (lunar) feasts whose days come on their appointed dates; and annual calendar feasts throughout the year, over and above the food offerings that are forthcoming in the (divine) presence, at the head of the sacred offerings for Ptah."

All the sources of offerings mentioned here can be grouped together under the heading of 'ceremonial texts' because of their ceremonial orientation. The variety of these sources impacts the way the remainder of this chapter is organized. A separate section is devoted to examining the connection between accounting and order as a performative ritual and each of the following sources: dedication texts, offering lists and calendars of feasts, inscriptions on the outside walls of temples and Papyrus Harris I, and finally artistic representations. The chapter ends with a further development of the theoretical argument connecting accounting as a performative ritual to the ordering of time and space before making some final remarks on the attributes of accounting as a technology of order.

ACCOUNTING AND ORDER IN DEDICATION TEXTS

Dedication texts are inscriptions carved on temple walls or stelae with the aim of informing the gods of new temple restorations or buildings initiated by the Pharaoh and provision of offerings. For example, Amenhotep III (1391–1353 BCE) boasts of the wealth he amassed in the temple of the Memnon Colossi (Breasted, 1906/1988, Part Two: 356–357):

> "It is supplied with a 'Station of the King', wrought with gold and many costly stones . . . Its storehouses contain all good things, whose number is not known . . . its cattle are like the sand of the shore, they make up millions."

This text does not provide any specific itemization, counting or valuation of offerings made. Rather, it establishes a *claim* of a dedication by the Pharaoh to the god whereby nothing is apparently spared "all good things", and of such large numbers so that their counting is rendered meaningless because they are like "the sand of the shore". Even when the notion of numbers is used, "they make up millions", the text remains silent as to exactly how many millions. Whenever dedication texts contain numbers, we do not encounter precise numbers but rather the use of the *concept of numbers*, hence these numbers are rhetorical (see also Carruthers and Espeland, 1991) intending to signal plenitude. Also implied in this inscription is some underlying, but vague, notion of value: 'gold', 'costly stones', and all 'good things' so that plenitude alone does not seem to be sufficient. If offerings have to keep the gods satisfied, they must be both plentiful and valuable. Further, the text underscores the intimate symbiosis between Pharaoh and god by emphasizing Pharaoh's doing of *Maat* (Pharaoh reciprocating for the protection of Egypt by the gods by making plentiful offerings to them). In this example, although the concepts of numbers and value are invoked, both counting and accounting are conspicuously absent because numbers and values are descriptors rather than precise quantifications. Thus, what we have is the Pharaoh rendering an account of his accountability, but without the explicit intervention of accounting, to the gods as evidence of his moral conduct as an ethical ruler who acts in accordance with the essence of *Maat*. Yet, we may surmise that even though accounting is not directly mobilized in this inscription, it nonetheless impacts the text. The Pharaoh and his scribes inhabited a world of counting and accounting; hence numbers and values, vague as they are in this text, still impart a particular significance born out of their impact on the mindset of the ancient Egyptians. Here we encounter an example of reciprocity close to the generalized type (Sahlins, 1972) where each side gives as much as they can (the Pharaohs: valuable offerings; the gods: the protection of Egypt).

One example where numbers intervene in dedication texts is engraved in the Karnak temple from the reign of the same Pharaoh, Amenhotep III, where the weights of the objects are stated in *deben*[1], a member of the family of ancient Egyptian money of account, along with other items (Breasted, Part Two: 367–368). Here we encounter more precise numbers (e.g., malachite: 4,820 *deben*; lapis lazuli: 3,000 *deben*) presumably with the aim of demonstrating that the Pharaoh upholds *Maat* by valuing his offerings to the gods. Placing a *valuation* via the intervention of the *deben* produces a seemingly precise accounting number as the quantity of malachite is converted into a money of account. The issue now of course concerns the kind of reciprocity that is facilitated by the intervention of valuation that is not possible without it. In other words, how is achieving reciprocity made easier, if at all, with the intervention of valuation via a money of account? If we were considering a situation of economic exchange between two parties to a transaction, then it would be easy enough to construct an argument in support of valuation (however this may be reached) that is supposed to underpin a measure-for-measure reciprocity. But in a situation where the exchanges entail qualities, how does valuation impact reciprocity? Specifically, what price can be placed on the protection of Egypt by the gods? How can this be accounted for? Does the intervention of value here make sense? These are intriguing questions to ask. Rather than attempt to address them now, the intention is to continue examining more ancient inscriptions of offerings in order to explore whether or not this will shed further light on these issues.

This style of enumerating and valuing offerings to the gods continued for a considerable time, and it was not until the reign of Ramesses III (1194–1163 BCE) that more details began to be inscribed in the dedications (Breasted, 1906/1988, Part Four: 7, 40, and 150). This new level of detail can be summarized in three observations. First, offerings began to be identified by type, e.g., grain, cattle, gold, and silver, and location (e.g., Kush, Edfu, Ombos) so that the items accounted for began to be spatially embedded. Second, offerings were valued using money of account, in particular the *deben*, for example (ibid: 16):

> “1. Gold of Kush.
> 2. Gold, 1,000 deben.
> 3. Gold of the mountain.
> 4. Gold of the water, 1,000 deben.
> 5. Gold of Edfu.
> 6. Gold of Ombos, 1,000 deben.
> 7. Gold of Coptos.
> 8. Lapis lazuli of Tefrer.”

This text was translated by Breasted as part of a pictorial scene (not produced here) showing the Pharaoh making these offerings to the gods depicted on the walls of the Medinet Habu temple.[2] The translated part is shown in eight rounded jar-like images in the second register from the right of the re-presentation, starting from left to right and from top to bottom. Of the eight offerings of gold and lapis lazuli, only three entries have the values “1,000 *deben*” assigned to them. It is difficult to ascertain how these numbers of 1,000 *deben* should be interpreted. On the one hand, their repetition makes them look suspiciously symbolic, and hence they may not be intended to signal precise numbers. On the other hand, it may be that in the context of that time, an offering valued at 1,000 *deben* of each of the precious metals became socially acceptable as signalling a sufficient amount of valuable offering made by the Pharaoh to the gods. If this is the case, then why were the remaining five entries not valued in either *deben* or any other form of money of account? Perhaps the inscription cited offers a glimpse that might shed some light on this issue, for the Pharaoh declares: “I (Ramesses III) might present them [the offerings] to thee by the measure”, so it may be that the assumption was that every offering was of the value of 1000 *deben*, although this seems rather far fetched (ibid: 16). It is plausible to argue that the intervention of accounting measures (the *deben* in this case) as a means of valuation endowed these offerings with a myth of orderly organization and precise valuation. The quest for valuation is further reinforced by an increased use of accounting and administrative vocabularies, e.g., revenues and impost/tax. For example, Ramesses III addresses the god Amun (ibid: 82) “I taxed them (conquered countries) for their impost every year, every town by its name, gathered together, bearing their tribute, to bring them [to] thy ka, O lord of gods.” Further, the same Pharaoh announces (Haring, 1997: 44, 47) “I made Your fixed portion festive with bread and beer . . . The provision of the Ennead is in accordance with their number. . . . Others are at their tasks in every work, in order to provide for Your fixed portion of daily requirements.” An orderly administrative cycle of collection and provision of goods unfolds in these dedication texts, with calculations of the “fixed portion” sufficient for the god’s “daily requirement” and the fixed allocations for members of the Ennead, depending upon their numbers, thereby reaffirming the provision of full, recurrent, and orderly offerings.

The third observation is the tendency to confirm dedications by inscribing them: Ramesses III declares to the god: “All the products of the Southland are in the writings of Thoth [Djhuty]; they are for thy house of millions of years” (Breasted, ibid: 18). Inscribing dedications through the medium of sacred writing by the god of writing and record keeping, Djhuty, could be seen to endow dedications to the gods with express divine qualities. Writing was also a means of underscoring the ownership of offerings by the gods. Thus, Ramesses III addresses the god Amun (Breasted, ibid: 82), “I have put its (property´s) positions into writing, that I might inclose them in thy grasp. I made for thee thy property lists, that they might be forever and [ever] in thy name.” Inscribing offerings provides a record that emphasizes the preservation of the *status quo* and establishes expectations of indefinite repetition of offerings in cyclical time, *neheh*, and in a changeless, perfect time, *djet*. Inscription underscores the recurrence and endurance of offerings, as writing provides a storage of past activities that is difficult to obfuscate or erase from memory compared to oral accounts (Ong, 1982; Goody, 1987; Assmann, 2006). Inscribed offerings to the gods establish an indelible record which demonstrates that Pharaoh has honoured his obligations towards the gods by making valuable offerings to them in return for the gods maintaining cosmic and worldly order and protecting Egypt. It also provides a reminder to future Pharaohs to follow the example set by their predecessors by acting as ethical rulers and by observing *Maat* through the provision of valuable godly offerings.

In summary, even in the case of dedication texts, arguably the least likely inscriptions to exhibit much accounting content, over time we discern a gradual intervention of accounting technologies in their inscription. These texts were primarily concerned with the symbolic and ceremonial dimensions, with greater use of accounting inscriptions considered a means of providing a permanent record that underscores the symbiotic relationship between gods and Pharaohs, keeping the gods satisfied, maintaining cosmic and worldly order, and legitimizing kingship. To the ancient Egyptians, the accounting inscriptions contained in these texts were performative in a most important way. As texts intended to produce order by keeping the gods satisfied and securing the protection of Egypt, experiencing Egypt as a united, sovereign and prosperous country by its citizens, which has been predominantly the case, provided every Egyptians with irrefutable evidence that godly offerings, made visible through accounting, produced the intended outcomes. These inscriptions were also performative in a different sense; by acting as reminders to the ruling Pharaoh and his successors that plentiful offerings to the gods had to be made regularly, offerings continued to be made to the gods. These instances of performativity have strong similarity to the effective and Barnesian types articulated by MacKenzie (2006a).

CALENDARS OF FEASTS AND OFFERING LISTS

Offering lists were inscribed on outside temple walls, typically as royal decrees stipulating revisions in the offerings established previously in calendar lists (Haring, 1997: 93). Given this similarity, discussion here focuses upon calendar lists which record pledges of offerings for feasts. The most important calendars of the New Kingdom date to at least the reigns of Ramesses II and Ramesses III; those of the latter Pharaoh, which are better preserved, were copied from those of the former. These calendars contain daily entries detailing line by line provisions for individual days and feasts as well as summaries of yearly totals. They also specify the occasion of the offering, the recipient, the enumeration of the items of the offerings and their sources, and in the case of bread and beer their baking or brewing ratios, a pictorial representation of the offering items, the relevant numbers, and the grand total. The calendar is divided into two main sections with bread and beer (and the corresponding amounts of different grains required) entered into the first part and non-cereal items (e.g., vegetables) recorded in the second part.

Table 5.1 Offering List: 5th Standard Feast of Osiris—6th day*

Heading

109. [4th Akhet, x]: 6th day of the feast of Osiris; offerings for Osiris and his Conclave on the feast of this day.

List

110	[*bit* bread	BR30]	Ratio per heqat, 1	Loaves 15	Making	½ oipe
111	[*bit* bread	BR40]	Ratio per heqat, 1	Loaves 15	Making	¼ + 1/8 oipe
112	[*bit* bread	BR60]	Ratio per heqat, 1	Loaves 15	Making	¼ oipe
113	[*bit* bread	BR100]	Ratio per heqat, 1	Loaves 25	Making	¼ oipe
114	[*psn* bread	BR5]	Ratio per heqat, 1	Loaves 5	Making	1 oipe
115	[*psn* bread	BR10]	Ratio per heqat, 1	Loaves 20	Making	2 oipe
116	[good notched *psn* bread	BR10]	Ratio per heqat, 1	Loaves 5	Making	½ oipe
117	[*psn ssrt* bread	BR20]	Ratio per heqat, 1	Loaves 40	Making	2 oipe
118	[*psn* … bread	BR10]	Ratio per heqat, 1	Loaves 5	Making	½ oipe
119	[….. bread	BR20]	Ratio per heqat, 1	Loaves 5	Making	¼ oipe
120	[white bread	BR20]	Ratio per heqat, 1	Loaves 5	Making	¼ oipe
121	[*bit* cakes	BR10]	Ratio per heqat, 1	Loaves 5	Making	½ oipe
122	[white fruit bread	BR80]	Ratio per heqat, 1	Loaves 10	Making	1/8 oipe
123	[beer	BR20]	Ratio per heqat, 1	Jugs 30	Making	1+1/2 oipe

Continued

Table 5.1 Continued

Summation						
124	[Total, assorted loaves] for the sacred offerings, 165 bit cakett, 5; beer, jugs, 30; making grain, 3 oipe related to (?) 7 oipe.					
125	[Total?	ordinary fowl	5	Wine, jars 1	Incense, baskets	5
126	[Total?	….] , baskets	2	Fresh flowers, bouquets 5	Fresh flowers, baskets	5

* Source: K. Kitchen, *Ramesside Inscriptions, Volume II*, Oxford: Balckewell, 1996: 336-337.

Table 5.1 shows the offering list of one day of the feast of Osiris from the Abydos temple, reign of Ramesses II (1290–1224 BCE). Having designated the precise date, month, and season, the list enumerates the quantities of foods relating to that day. The most prominent item is bread, divided initially into broad categories, such as *bit* bread (conical loaves made of barley), *pesen* bread (flat, circular loaves made of emmer wheat), white bread, etc. To demarcate finer categories still, four different types of *bit* bread are differentiated by baking ratios (BR, or *psw*, a measure of baking dilution) ranging from 5 to 100 per *hekat*/*heqat* (*hekat* = 4.8 litres) as money of account.[3] A further calculation converts each entry of numbers of bread loaves with a specific baking ratio into its equivalent in *oipe* (= 19.22 litres), a capacity-based money of account. This is achieved by dividing the number of bread loaves by the relevant baking ratio; for example, in the first entry 15 loaves are divided by a baking ratio of 30 to obtain ½ *oipe*. In the case of beer the number of jugs is divided by the brewing ratio (measure of dilution for brewing) to determine the equivalent in *oipe*. Thus, the scribe converted bread loaves, as well as beer, with differing baking or brewing ratios, into one common denominator, rendering the entries inter-translatable via this money of account (*hekat* and *oipe*). At the end of this first part several aggregations are made. Assorted bread loaves are totalled (165), followed by cakes (5), and beer jugs (30). Another aggregate of *oipe* is reached by summing up the final column of the list across all types of bread and beer (entered as 3+7) to give 10 *oipe*. The second part of the list merely enumerates fowl, wine jars, baskets of incense and bouquets, and baskets of fresh flowers. The overall structure of the list conveys a picture of temporally and spatially ordered entries endowed with the aura of numerical accuracy and organization. These ancient texts are invested in an economy of exchange and restitution: plentiful offerings to the gods in return for their preservation of cosmic and worldly order and the protection of Egypt.

Other calendar lists, such as those of the Ramesseum (Ramesses II) and Medinet Habu (Ramesses III), contain significantly larger amounts of foodstuffs compared to those previously mentioned, but they also display major similarities in style and structure to those of the calendar lists discussed earlier. There is another major text, Papyrus Harris I, which records offerings to the gods. This papyrus differs from the Ramesseum and Medinte Habu inscriptions in at least two important respects.[4] First, as indicated previously, the calendar lists engraved on the walls of the temples are much more detailed in terms of the recording of line by line items, as well as being dated on a daily basis. In contrast, Papyrus Harris I only gives aggregate entries of offerings either on an annual basis or for the whole duration of the reign of Ramesses III. Second, it appears that the entries of the temple walls are concerned with prescribed deliveries, that is expected theoretical deliveries. In contrast, Papyrus Harris I records post-factum offerings relating to deliveries actually made. Given these differences, and because of the completeness and excellent condition of Papyrus Harris I, it is examined here in detail.

PAPYRUS HARRIS I

Papyrus Harris I was composed shortly after the death of Ramesses III and covers his full reign of thirty-one years. The inscription lists as beneficiaries of offerings Amun (god of Thebes), Re (god of Heliopolis), Ptah (god of Memphis), and all other gods and goddesses of Lower and Upper Egypt and of ‘every land’ (the Egyptian Empire). This long papyrus records the following types of wealth/income: (1) god’s estate; (2) god’s income; (3) offerings to god; (4) grain for old feasts; (5) offerings for new feasts; and (6) offerings to the Nile god. Offerings to each god are listed in detail under a separate section and the order of these sections remains exactly the same throughout the papyrus.

The earlier parts of the text begin with prayers offered by Ramesses III to the gods, followed by promises of different offerings written in a style similar to that of the dedication texts, where amounts are “without number” (Breasted, 1906/1988, Part Four: 120), or “multiplied more than the sand” (ibid: 123), and when numbers are mentioned, they seem to be symbolic, implying plenitude “hundred thousand” (ibid: 114). By avoiding precise enumeration, offerings are presented as being too large to be counted, and thus as an appropriate reciprocation in return for the gods’ protection of Egypt and for sustaining order in the cosmos, on earth, and in the netherworld. However, the substantial remainder of the Papyrus goes beyond dedication texts by providing lists of incomes and offerings. The lists of god’s estate typically count the numbers of individuals attached to the estate along with other resources such as cattle heads, gardens, lands, and workshops. The remaining categories cover income, offerings, and grain where monies of account are used to reflect the relative values of items, and these are the parts that are analyzed in the following discussion.

Table 5.2 Income of the Temple of Amun*

Pl. 12a

Things exacted, the impost of all people and serf-labourers of “The House (*h t*)-of-King-Usermare-Meriamon,-*L.-P.-H.*,-in-the-House-of-Amon” (Medinet Habu temple), in the South and North under charge of the officials; the “House (*pr*)-of-Usermare-Meriamon-*L.-P.-H*,-in-the-House-of-Amon” (small Karnak temple), in the (residence) city; the “House (pr)-of-Ramses-Ruler-of-Heliopolis,-*L.-P.H.*,-in-the-House-of-Amon” (Luxor temple); the “House (*h t*)-of-Ramses-Ruler-of-Heliopolis,-*L.-P.-H.*,-Possessed-of-Joy-in-the-House-of-Amon-of-Opet” (southern Karnak temple); the “House-of-Ramses-Ruler-of-Helipolis,-*L.-P.-H.*,-in-the-House-of-Khonsu” (Konsu-temple); the five herds made for this house, which King Usermare-Meriamon, L. P.H., the Great God, gave to their treasuries, storehouses and granaries as their yearly dues:

Fine gold	217	deben	5	kidet
Gold of the mountain, of Coptos	61	deben	3	kidet
Gold of Kush	290	deben	8½	kidet
Total, fine gold, and gold of the mountain	569	deben	6½	kidet
Silver	10,964	deben	9	kidet
Total, gold and silver	11,546	deben	8	kidet
Copper	26,320	deben		
Royal linen, mek-linen, fine southern linen, colored southern linen, various garments	3,722			
Yarn, deben	3,795			
Incense, honey, oil, various jars (‘^{cc})	1,047			
Pl. 12b				
Shedeh and wine, various jars(‘^{cc})	25,405			
Silver, being things of the impost of the people (rm-t) given for the divine offerings	3,606	deben	I	kidet
Barley [-], of the impost of the peasants (*yhwty*), 16-fold heket	309,950			
Vegetables, bundles	24,650			
Flax bales	64,000			
Bulls, bullocks of the bulls, heifers, calves, cows, cattle of[-] cattle of [-] of the herds of Egypt	847			
Bulls, bullocks of the nege-bulls, heifers, calves, cows, being impost of the lands of Syria (*H’-rw*)	19			
Total	866			
Live geese of the exactions	744			
Cedar: tow-boats and ferry boats	11			
Acacia: tow-boats ‘canal’-boats, boats for transportation of cattle, warships, and kara-boats	71			
Total, cedar and accacia: boats	82			
Products of the Oasis in many lists for the divine offerings				

* Source: J.H. Breasted, *Ancient Records of Egypt, Part Four*, London: Histories and Mysteries of Man Ltd., 1906/1988: 127-128.

Table 5.2 provides a list of the income stated as impost exacted from the Pharaoh’s subjects for the benefit of the Amun temples. The list shows different items that can be grouped under three classifications. First, less bulky and more valuable items (gold, silver, copper and yarn) valued in *deben* (91 grams in weight) and *kite* (kidet, 1/10 of a *deben*). Second, barley, which is both bulky and of critical nutritional value, for which a capacity measure, the *khar* (76.88 litres) or *hekat* (4.8 litres), is used as a money of account. Third, the remaining items where simple counting of identities is used; for example, jars of wine, bundles of vegetables, and heads of cattle. Thus, side-by-side, the income list uses two different types of money of account

Table 5.3 The Pharaoh's Gifts to Amun*

Pl. 13a

Gold, silver, real lapis lazuli, real malachite, every real costly stone, copper, garments, jars, fowl, all the things which King Usermare-Meriamon, L.P.H., the Great God, gave as gifts of the King L.P.H., in order to provision the house of his august fathers (sic!), amon-Re, King of gods, Mut and Khonsu, from the year 1 to the year 31, making 31 years.

Fine Ketem-gold; 42 '-' (*dmd̄t*), making	21	deben		
Fine gold in 'raised work' 22 finger rings, making	3	"	3	Kidet
Fine gold in inlay; 9 finger rings, making	1	"	3½	Kidet
Fine gold in 'raised work' and inlay of every real, costly stone, a 'ring' of the column of Amon, making	22	"	5	"
Fine gold in hammered work; a tablet, making	9	"	5½	"
Total, fine gold in ornaments	57	"	5	"
Gold of two times, in 'raised work', and in inlay; 42 finger rings, making,	4	"	5½	"
Gold of two times; 2 vases	30	"	5	"
Total, gold of two times	35	"	½	"
White gold: 310 finger rings, making	16	"	3½	"
Pl. 13b				
White gold, 264 beads, making	48	"	4	"
White gold in beaten work: 108 finger rings for the god, making	19	"	8	"
White gold: 155 amulet cords, making	6	"	2	"
Total, white gold	90	"	7½	"
Total, fine gold of two times and white gold	183	"	5	"
Silver: a vase (with) the rim of gold, in 'raised work', making	112	"	5	"
Silver: a seive for the vase, making	12	"	5	"
Silver: a sifting-vessel for the vase, making	27	"	7	"
Silver: 4 vases, making	57	"	4½	"
Silver: 31 large panniers with lids, making	105	"	4	"
Silver: 31 Caskets with lids, making	74	"	4	"
Silver: 6 measuring-vases (^{c}*rk*), making	30	"	3	"
Silver: in hammered work, a tablet (^{c}*wl*), making	19	"	3½	"
Silver in hammered work, 2 tablets (^{c}*nw*), making	287	"	½	"
Silver in scraps	100	"		

Continued

Table 5.3 Continued

Total, silver in vessels and scraps	827	“			
Pl. 14a					
Total gold and silver in vessels and scraps	1,010	“	61/4	“	
Real lapis lazuli: 2 blocks, making	14	“	½	“	
Bronze,[c] in hammered work: 4 tablets (ᶜ*nw*), making	822	“			
Myrrh: deben					51,140
Myrrh: heket					3
Myrrh: hin					20
Myrrh wood: logs					15
Myrrh fruit in measures (*ypt*)					100
Royal linen: garments (*dw*)					37
“ “ upper garments (*dw*)					94
“ “ hamen-garments (*dw*)					55
“ “ mantles					11
“ “ wrapping of Horus					2
“ “ —[d] garments					1
“ “ garments (*ydg’*)					690
“ “ tunics					489
“ “ garments for the august ‘statue’ of Amon					4
PL 14b					
Total, royal linen, various garments					1,383
Mek-linen: a robe					1
Mek-linen, a mantle					1
“ “ in a ‘cover’: a garment for the august ‘statue of Amon					1
Total, mek-linen: various garments					3
Fine southern linen: garments (*dw*)					2
“ “ “ – garments					4
“ “ “ upper garments (*dw*)					5
“ “ “ garments (*ydg’*)					31
“ “ “ tunics					29
“ “ “ kilts					4
Total, fine southern linen, various garments					75
Colored linen: mantles					876
“ “ tunics					6,779
Total, colored linen, various garments					7,125
Total, royal linen, mek-linen, fine southern linen, southern linen, coloured linen, various garments					8,586
Pl. 15a					
White incense: (*mn*) jars					2,159
White incense (*mn*) jars[d]					12

Continued

Table 5.3 Continued

Honey: (*mn*) jars	1,065
Oil of Egypt: (*mn*) jars	2,743
Oil of Syria (*H'-rw*): (*m-s'-hy*) jars	53
Oil of Syria (*H'-rw*): (*mn*) jars	1,757
White fat: (*mn*) jars	911
Goose fat: (*mn*) jars	385
Butter: (*mn)* jars	20
Total, filled jars	9,125
Shedeh: colored (*mn*) jars	1,377
Shedeh: (*k'bw*) jars	1,111
Wine: (*mn*) jars	20,078
Total, shedeh and wine jars (*mn I k'bw)*	22,556
Hirset (*hrst)* stone: sacred eye amulets	185
Lapis lazuli: scared eye amulets	217
Pl. 15b	
Red jasper: scarabs	62
Malachite scarabs	224
Bronze and Minu (*mynw*) stone: scarabs	224
Lapis lazuli: scarabs	62
Various costly stones: sacred eye amulets	165
Various costly stones: seals as pendants	62
Rock crystal: seals	1,550
Rock crystal: beads	155,000
Rock crystal cut: hin-jars	155
Wrought wood: seals	31
Alabaster: a block	1
Cedar *bp'-ny-ny*	6
Cedar *tpt*	1
Neybu (*N'y-bw*) wood: 3 logs, making (deben)	610
Cassia wood: 1 log, making (deben)	800
Reeds: bundles	17
Pl.16a	
Cinnamon: measures (*msty*)	246
Cinnamon: bundles	82
Grapes: measures (*msty*)	52
Rosemary (*nkp'ty*): measures (*msty*)	125
Yufiti (*Yw-fy-ty*) –plant: measures (*msty*)	101
Dom-palm fruit of Mehay (*M-h'-yw*): measures (*msty*)	26
Fruit: heket	46
Grapes: crates	1,809
Grapes: bunches	1,869
Pomegranates: crates	375
B'-k'-y' plant, in measures (*yp't*)	1,668

Continued

Table 5.3 Continued

Various cattle	297
Live geese	2,940
Live turpu (*Tw-r-pw*) geese	5,200
Live water-fowl	126,300
Pl. 16b	
Fat geese from the flocks	20
Natron: bricks	44,000
Salt: bricks	44,000
Palm-fiber: ropes	180
Palm-fiber: loads	50
Palm-fiber: ‘-‘	77
Palm-fiber: cords	2
Sebkhet (*sbh’t*) plants	60
Flax (*ps’t*) bekhen (*bhn*)	1,150
Ideninu (*Ydnynyw*)	60
Hezet (*hd’t*) plant: measures (*msty*)	50
Pure ‘-‘, deben	750

* Source: J.H. Breasted, *Ancient Records of Egypt, Part Four*, London: Histroies and Mys of Man Ltd., 1906/1988: 128-133.

(weight and capacity) as well as counting of objects. Different types of gold are differentiated by source, valued in *deben* and *kite*, before all gold is totalled. Silver is then listed and its value added to that of gold. Copper is valued similarly but is not added to the total values of gold and silver, possibly because it was deemed much less valuable than either of them. When similar items were enumerated via counting, they were added together, such as the boats made of cedar and acacia.

Table 5.3 records the Pharaoh’s gifts to Amun. As usual, the list is preceded by a narrative stating the kinds of goods given as a gift (every real costly stone, copper, garments, jars, fowl). The list then shows the details of each type of good offered to the god, for example, gold is differentiated according to whether it is fine or white, and the variety of the gold product is also mentioned: hammered work, ornaments, finger rings (raised work, beaten work, or inlay), vases, amulet cords, beads, and logs of wood. *Deben* and *kite*, as monies of account, are used to value the quantities of different types of gold, thereby bringing them all into additive amounts of monies that can be totalled across the list. Objects made of other metals, in particular silver and bronze, are treated similarly, valued in *deben* and *kite*, and oils (myrrh) are also converted into *deben*, *hekat,* and *hin*. Linen is enumerated through simple counting of identified and differentiated objects, and incense, honey, butter, oil, and fats are differentiated by source or type and counted in numbers of jars (presumably of a similar size). Other goods, such as grapes and cinnamon, are quantified by bunch or crate, fibre by

Table 5.4 Offerings Founded by Ramses III*

“Books of the Nile-god,” which King Usermare-Meriamon L.P.H., the Great God, founded 48 years, making 31 years;
Books of the Nile-God”, making:

Fine bread of the divine offerings: various loaves (*by’t*)	470,000
Fine bread of the divine offerings: person (*pr-sn*) loaves, white loaves, and seshu (*ssw*) loaves	879,224
Cakes: various measures (*yp t*)	106,910
Kunek (*kwnk*) bread: loaves (*wdnw-nt*)	46,568
Beer: various jars	49,432
Making	
Clean grain: 16 fold heket	61,172½
Bulls	291
Bullocks of the bulls	291
Pl. 38a	
Calves	51
Cows	2,564
Total	2,923

Source: J.H. Breasted, *Ancient Records of Egypt, Part Four*, London: Histories and Mysteries of Man Ltd., 1906/1988: 157.

ropes or loads, and salt and natron by bricks. Thus, a combination of monies of account, each deemed appropriate for a particular item, is used to convert items into values, and counting of quantities is used when it was felt that valuation by means of monies of account was not required.

Table 5.4 shows a small part of the offerings made by Ramesses III containing only bread and cakes (the remainder of the account documents other goods ranging from cattle and fowl through oils and herbs to wood). Two observations are worth noting concerning the bread and cakes entries: (1) they are listed by type and enumerated by number or measure; and (2) because of knowledge of dilution measures such as the baking ratio, the equivalent amounts of bread and cakes offered are valued in *hekat* (4.8 litres). Hence, different quantities of breads and cakes are inter-translated via the *hekat* as a money of account into one aggregate number, thereby endowing the accounts with the order of a common denominator.

Apart from the seemingly obvious linkages in the structures of these lists, they share several characteristics. First, Tables 5.3 and 5.4 specify the precise period covered of the reign of Ramesses III (31 years) and the temples to which they are allocated, and Table 5.2 lists the individuals responsible and their locations, thereby the offerings are embedded both temporally and spatially. Second, the entries are arranged under designated sections in a bookkeeping order that is adhered to throughout the entire Papyrus. Third, different measures are consistently assigned to different items. Monies of account, e.g., *deben*, *khar*, are clearly differentiated from each other via different entries so that multiple monies of account coexist in the same list. Fourth, a precise system of *inter-translatability* underpins all the different monies of account used, so that entries using one money of account are translatable into another thereby ensuring that the values of different items are additive. Moreover, different parts of an account or list are rendered amenable to integration into a coherent whole, so the seeming disorder of using different monies of account is transformed into order via the inter-translatability of all these monies of account into one denominator of value. Fifth, totals used in the inscription endow the accounts with an aura of internal coherence, balance, and accuracy. Sixth, these quantification and valuation technologies have symbolic significance beyond merely equating different items; they visualize the magnitude of the reciprocal offerings made by the Pharaoh to the gods and underscore his doing of *Maat* as a supremely ethical divine ruler, triggering expectations that in return the gods will secure order in the three ancient Egyptian realms of the cosmos, the earth, and the netherworld. To the Egyptians living at that time, the link between the ritual of bookkeeping and performativity would have been evident in the continuing survival and prosperity of Egypt, the perpetuation of kingship, and the experience of cosmic and worldly order continuing as previously.

Because calendar offering-lists were also recorded on the outside walls of temples, they tended to focus on totals rather than on individual items/objects; for example, they state types and amounts of animals rather than naming and counting parts of animals. They focus upon resources pledged for the temple, and this explains why Haring (1997: 61) sees them as reflecting administrative 'reality'. The inscriptions on these calendar offering-lists have varied over time, prompting Haring to surmise that this may have been in response to accounting and administrative demands. The ritual offering-lists were located in the inner rooms or private tombs within the temple enclosure, and they were concerned with detailed items (e.g., different parts of an ox rather than the whole ox). Entries in ritual offering-lists do not contain any of the items mentioned in the calendar offering-lists, but the reverse is true. Haring (ibid: 58) argues that it is justifiable to regard

> "the offering-lists on the outside of the temples as the administrative 'translations' of the offering-cults going on inside, being copies on stone of papyrus documents that may with good reason be called 'ritual', but which incontestably have administrative aspects as well."

Haring reads 'rational' administrative intent in these texts, but given that they were inscribed once and for all at one point in time, which renders them inflexible to variations in context that may demand frequent fine-tuning by the scribes, a less 'rational' reading may be closer to the mark. In this context it is pertinent to ask: why such obsession with detailed accounting entries of godly offerings? Why were these texts put on public display by being also engraved on the outside walls of temples, rather than being inscribed only on papyri? It is argued here that concern with performativity and order has an important role in addressing these two questions.

COMBINING PICTURES, WORDS, AND NUMBERS

> "A place is nothing: not even a space, unless at its heart—a figure stands." (Paul Dirac, 1958, cited in Barrow, 2000: 51)

Pictorial scenes engraved on the walls of temples and tombs, frequently supported by linguistic and numerical texts, were part of the rituals that celebrated offerings in ancient Egypt. These scenes frequently replicated the contents of offering lists, although not in the same detail. Examples include the temples of Medinet Habu, Abydos, and Luxor[5]. The procession engraved on the outside walls of Medinet Habu shows individuals carrying various items, such as grain, flour, foodstuffs (bread, cakes, sweets, fruit), beer, gold, and oxen. Bread loaves are differentiated pictorially by type into *bit* bread, *pesen* bread, white bread, etc., with supporting inscriptions indicating the baking ratio as well as the supply sources of bread (Haring, 1997: 109). Beer is differentiated by type of jar and brewing ratio (the latter, for example, 4 and 8, and 5 and 10; the second figure of every pair being the exact double of the first, ibid: 113). Incense is valued in *deben*.

Representations of offerings typically state that they are of a fixed allocation; for example, daily offerings are supported by the inscription "the divine offering of the fixed portion of every day" (ibid: 112). The scale of each scene is large, sometimes measuring 25 meters across, with each scene being proportionate to the size of the temple to which it relates so that the order of the actual sizes of the temples is reproduced on a smaller scale in the engraving. The procession of offerings is led by a high ranking priest burning incense, and the scribe of divine offerings. The presence of the scribe and the priest endows the scenes with order and legitimacy, bringing accounting and divinity into an immediate symbiosis. There is more to the role of the scribe than what seemingly resembles a static representation. The scribe of divine offerings is shown receiving the carriers of offerings at the doorway of the temple. Another temple scribe urges the carriers of meat to: "Hurry up! [take] the meat-portions to the temple, which is open(?). Come and carry out [your] tasks" (ibid: 126). Responsibility for receiving and monitoring offerings is divided, so that the scribe of the temple deals with meat only whereas the scribe of divine offerings deals with the remainder of the offerings. The 'scribe of the god's sealed things', attached to the temple treasury (ibid: 127), weighs gold, precious stones and incense delivered to the temple, accompanied by the following inscriptions (ibid: 136):

> "(Ineni) inspecting the [silver] and gold [. . .] turquoise [. . .] incense of the monthly requirement [. . .] for the Ennead [. . .] *d'm* gold [. . .] by the overseer of the treasury . . .] Ipet[sut . . .] of Amun [. . .](Puyemre) [counting/weighing?] incense for the temples . . . which are in the retinue of the House of Amun, in the treasury of the temple"

These pictorial representations, supported by inscriptions, offer a rich tapestry of scribal involvement in the ritual of offerings, and the process entailed in receiving, weighing, and counting them. The scenes construct a 'reality' of an organized and orderly process in imitation of cosmic order, endowed with religious and administrative legitimacy. The intervention of the ritual of accounting entries, supported in no small part by the representations of the constructors of order, the scribes, each with his specialism, provides inscribed and pictorial evidence of the performativity of accounting inscriptions. What is contained in these scenes was understood to be invested in reality, with the skilled scribes exercising their intimate knowledge of the accounting craft to perform their tasks in a calculated, organized, neutral and dispassionate manner, as exemplars of those who live and work according to the essence of *Maat*. Just as we have seen in the pictorial representations of the Day of Judgment in Chapter 4, these scenes on temple walls convey an image of transparency by availing themselves to the public eye; for if you live by *Maat*, not only do you have nothing to

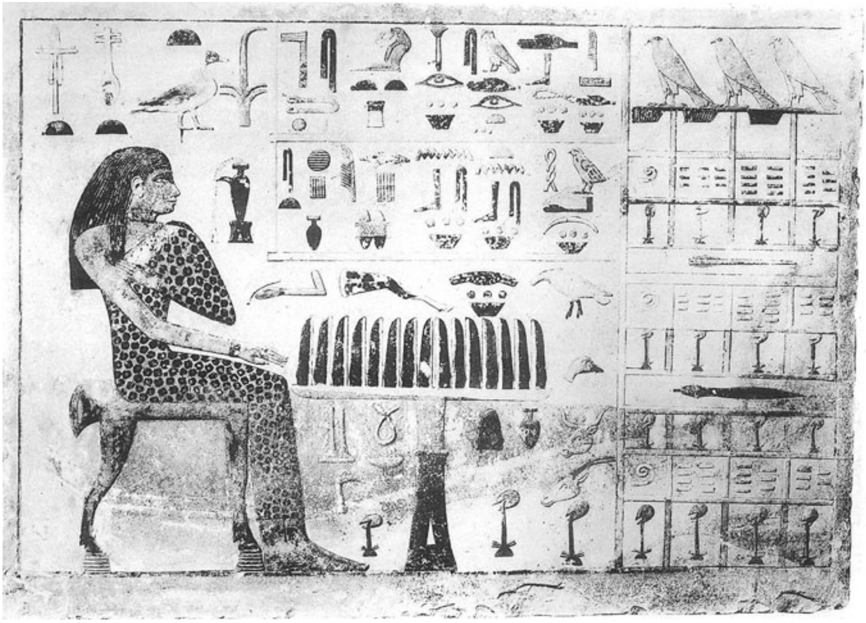

Figure 5.1 Offerings Stela of Nefertiabet.
Source: 10. stela of Nefertiabet (Louvre E 15591): Ch. Boreux, Un bas-relief au nom d'une princesse de la Ive dynastie, Revue de L'Egypte Ancienne 1 (1927), 5–14, pl. II

hide, but more importantly you make your stance as an ethical subject visible for all to see.

The combining of words, numbers, and pictorial scenes was a widespread practice in the funerary rituals of ancient Egypt, as shown in Figure 5.1. The figure is made up of three registers. The left register shows a woman, Nefertiabet, seated before an offering table loaded with different types of foodstuffs, and three numbers, each of 1,000, at the bottom below the head of a gazelle and a bird. The upper middle register is an inscription of the names of the gods to whom the offerings are made and the name of Nefertiabet, her good deeds in life, and a prayer that she may be justified on the Day of Judgment. The right register is a numeric account of the various offerings made or pledged, ranging in quantity from less than ten through hundreds to thousands. What could such a combination of different forms of representation achieve that a single form of representation could not?

While in these re-presentations numbers, text, and image become consummately united, the three modes of re-presentation are not in a relation of complete replication of each other. Davis (1992: 240) warns against "treating the pictorial text as merely a re-production or illustration of that other text", and Bryan (1996) refers to the disjunction of (written) text and (pictorial) image in Egyptian art. The meanings that different modes of representation engender occur not only because the author may intend to use them to signal different meanings, nor only because we as readers may read them differently. Also, these modes differ in their accessibility to the audience and in their representational capacities. In ancient Egypt, most people could not read words or numbers, but were likely able to read some meaning in a pictorial representation, even though they may interpret it differently.[6] Further, for some scholars (e.g., Barthes, 1977: 17), works of art, such as paintings, offer:

> "a supplementary message, in addition to the analogical content (scene, object, landscape), which is what is commonly called the *style* of the reproduction; second meaning, whose signifier is a certain 'treatment' of the image (result of the action of the creator) and whose signified, whether aesthetic or ideological, refers to a certain 'culture' of the society receiving the message"

These two messages, the supplementary, or the second, as well as the analogical, of paintings, which are culturally embedded, are not redundant duplications of the written text accompanying the paintings. Rather, these messages are in communication with the written text (ibid: 16). The text, Barthes (ibid: 26–27) argues, "loads the image, burdening it with culture, a moral, an imagination. . . . the text produces (invents) an entirely new signified which is retroactively projected into the image, so much as to appear denoted there." Written (or numerical) texts can be treated as discrete texts where separate signs (words, numbers) can be identified. In contrast, individual signs are not capable of being singled out in pictorial representations, so a figure cannot be detached from its context as the same brushstroke establishes simultaneously the figure and part of its background, thus the scene is read as a whole. Others (e.g., Elgin, 1983) have noted that pictorial representations are *generally* far more dense compared to words or numbers. A small alteration in a pictorial representation effectively annuls it and creates another. In contrast, words and numbers are less restrictive; for example, A, a, *a*, would all be taken to signify the same letter of the alphabet.

In seeking to understand the dialectics, or intertextuality (Weinsheimer, 1991; Loprieno, 1996), between pictorial, linguistic, and numerical signs it is important to note the context within which these modes of representation are employed. Hieroglyphs were understood by the Egyptians to be endowed with magical qualities both as written texts and artistic representations. Objects or individuals were represented in the form of hieroglyphic signs to convey symbolic messages. As Wilkinson (1994: 152) notes: “The embedded or ‘encoded’ hieroglyphic forms also frequently interact to some degree with the texts or inscriptions with which they are associated, for the use of hieroglyphic form in Egyptian art rarely occurs in complete isolation from the written word.” In this context, “‘picture’ and ‘hieroglyph’ often work(ing) together to constitute the ‘image’” (Davis, 1992: 4). These comments give rise to a number of implications concerning order and accounting.

First, pictures could be ‘read’ by the Pharaoh’s illiterate subjects who could not decipher linguistic texts or accounting numbers. Compared to written texts, the ´power of the visual´ (Quattrone, 2009) lies not only in its strong impact but also in its greater accessibility. Different modes of representation may give rise to different readings: “art may provide a different version of the same subject expressed in accompanying text” (Bryan, 1996: 164). Yet, the combining of pictures and inscriptions into one representation generates fluidity and a mutual determination between the text and the illustration (Assmann, 1994). The bringing together of the pictures of offerings and accounting inscriptions yields a more complex re-presentation than would be the case if only one form of re-presentation was used. These different modes of re-presentation, combined as an integral whole, collectively invested offerings with order. While the accounting inscriptions endowed offerings with precision and order, via the use of numbers and values, designation of space and time, and naming of objects and individuals, the written text and pictorial scene formed a context in which the accounting numbers could be read. Together, these re-presentations were monumental performative rituals that entailed the rendering of an account of offerings pledged and made so as to demonstrate the doing of *Maat*, and as a consequence secure the perpetuation of cosmic and worldly order by keeping the gods satisfied.

Second, the use of accounting numbers in artistic representations (e.g., number of beer jugs) is linked to the symbolic nature of numbers and their connection to order. The *Rhind Mathematical Papyrus*, dating to the

Twelfth Dynasty (1991–1783 BCE), presents itself as: "Accurate reckoning [or Rules for reckoning] for inquiring into things, and the knowledge of all things, mysteries . . . all secrets" (Clagett, 1999: 122). Accurate reckoning was thus construed as the gateway to knowledge of all things; a knowledge that imposed order on mysteries and secrets by revealing them and rendering them knowable. Ancient Egyptian culture accorded major significance to knowledge, and knowledge was performative in producing intended effects (Assmann, 2005). Without intimate knowledge, little could be accomplished. Even the dead had to *know* specific recitations or texts otherwise they could not enter the domain of Eternity and they became destined to waste and annihilation. Accounting numbers provided seemingly accurate, indisputable knowledge pertaining to inscribed subjects or objects. The use of numbers in Egyptian temple inscriptions and scenes was an integral part of an assemblage of rituals that sought to underpin orderly equilibrium. Wilkinson (1994: 126) argues that in ancient Egypt: "the relationships between the abstract numbers found in myth and in nature were . . . seen as meaningful patterns reflecting divine planning and cosmic harmony", further reaffirmed and reinforced by accounting inscriptions that ordered the sacred and worldly domains.

Third, of all items of foodstuffs, entries for bread and beer were accorded so much detail, with bread in particular differentiated in every case by type and precise baking ratios. It is not difficult to provide a convincing argument of why such detail was sought desirable. In ancient Egypt, bread symbolized life-giving power and the *ankh*, the key of life, was frequently represented artistically in the form of an offering table loaded with bread loaves (ibid: 160–169). Further, the most common values of the baking ratios were 4 and 5 and their multiples, with the symbolic meaning of totality and completeness accorded to these numbers by the ancient Egyptians (ibid: 133–138). Perhaps it is stretching things too far to single out bread for a special significance in offerings seeking to affirm order, because all foodstuffs may have carried strong signification. Shafer (1998: 25) has argued that:

> "there must have been religious as well as socioeconomic meaning to partaking of god's food, particularly because the food symbolized life, order, the self of god, and the selves of the donor and officiant. Those Egyptians sharing in the food must have experienced a sense of privileged communion with god and king that shaped their ritualised bodies and enhanced their feelings of unity, efficacy and power."

While provisions of all kinds of foodstuffs had such a symbolic link to order, bread in particular had a special significance: serious shortages in bread supplies would have threatened the survival of the populace, with the possible consequence of civil and political disorder.[7] In ancient Egyptian thinking, as we have seen, any destabilizing of worldly order was understood to be disruptive of cosmic order with the threat that the world will revert back to the state before the Atum rose out of the primeval waters (that is, annihilation of the ancient Egyptian world). Perhaps a similar argument applies to beer, for beer was not a leisurely drink as it is nowadays, but for the ancient Egyptians it was an item of a major nutritional value.

Fourth, the ritual of inscribing ancient Egyptian offerings, whether numeric, textual, or artistic, was performative in two senses. The inscriptions offered evidence of the *action* of making offerings to the gods by the Pharaohs or important persons. In this respect, the ancient Egyptians may have felt there was little, if any, difference between artistic scenes and reality. In short, the artistic scenes of offerings produced the reality of offerings. Moreover, the inscriptions in themselves are records of the offerings that served to instil a measure of recurrence and endurance of offerings, and in this sense they acted as a reminder to subsequent Pharaohs that if they wished for the gods to continue to protect Egypt and secure order in the three realms (the cosmos, the earth, and the netherworld), Pharaohs had to continue making offerings to the gods. Both these arguments directly connect with the preservation of order. The action of making the offerings was an exercise in which the Pharaohs discharged their responsibility to the gods as ethical rulers who upheld *Maat*. The act of inscription invested the offerings with qualities not possible in purely oral societies (Ong, 1982; Goody, 1986, 1987). Compared to oral records, not only does the act of inscription produce a relatively permanent record of connective memory (Assmann, 2006), nor does it only signal the potential of a much greater mobility of what has been inscribed, but it is also an exercise in power relations. In ancient Egypt, inscriptions were a manifestation and an effect of power relations in which Pharaohs, senior officials, high priests, and scribes loomed large. As Foucault (1974) has remarked, writing is a systematic conversion of the power relations between controller (e.g., the Pharaoh) and the controlled (e.g., the populace), and Nietzsche (1930) has argued that inscribed texts are fundamental 'facts' of power.

ACCOUNTING AND ORDER IN TIME AND SPACE

The historical material analyzed here is distinctive. First, some of the inscriptions were recorded at one point in time but covering many years before. In particular, in the case of Ramesses III the inscriptions were made after his death and covered all the years of his reign, exhibiting the attributes of a complete text intended to last for perpetuity. It could be argued that these were summary records drawn from more detailed, regular accounts kept for functional purposes. While this may be the case, a functionalist interpretation does not fully explain why such summary accounts were inscribed after the death of the Pharaoh and on both stone and papyrus. Indeed, Papyrus Harris I was intended for burial in the tomb of Ramesses III thereby suggesting that it is unlikely that it was inscribed for monitoring and control purposes. Second, the entries engraved on the outside walls of temples, in particular those of Medinet Habu, deal with *aggregate annual* amounts of *expected theoretical* deliveries of goods and resources, without corresponding entries showing *actual* deliveries and discrepancies (balances), rendering them on their own insufficient for control purposes.

The diverse nature and the accounting content of the inscriptions analyzed here give rise to a number of pertinent questions. For whose benefit (humans; gods), one may ask, were these inscriptions intended, given the low level of literacy in ancient Egypt? What roles did these accounting inscriptions play in constructing and underpinning order of time and space? If the main purpose of accounting inscriptions in temples was ritualistic, why were they so precise, with units enumerated either through counting of identities or valued via a 'money of account'? How was accounting implicated in the diverse activities of the temples, and in their conceptualization as the loci of ordered, secular and sacred time and space? What qualities does accounting possess that render it amenable for use by interested agency as a means of constructing a reality of cosmic and worldly order? What insights can be gleaned from the inscriptions and images that can inform the theorizing of accounting? While it is not the intention here to address all these questions, any meaningful attempt to do so is inextricably intertwined with the notion of order. To mark this emphasis, the following discussion is devoted to elaborating some of the issues raised here. In this section, the focus is on the connection between accounting and order in relation to conceptions of time and space.

Accounting, Order, and Time

An inscription from the reign of Sesostris I (1971–1926 BCE) makes an explicit connection between the provision of offerings and orderly sacred time by emphasizing the dimensions of *neheh* and *djet* (Assmann, 2002: 60–61):

> "I have come as Horus . . .
> to establish the offering cakes of the gods,
> to accomplish the building works in the temple of my father Atum,
> to make him rich even to the degree that he had made me take rule,
> to provide his altars with food on earth.
> . . . .
> *Neheh*-eternity it means, to create the salvational.
> A king who is named for his work does not die,
> . . . .
> The things of *djet*-eternity do not die.

By making offerings to the gods, Pharaohs sought to secure the continuity of kingship, immortalise themselves, satisfy the gods, and maintain order.

Making offerings to the gods by the Pharaohs also ensured their salvation in *neheh* time and their immortality in *djet* time. Accounting inscriptions provided an indelible record of these achievements and made it possible for a Pharaoh to be 'named for his work', in this case making valuable offerings to the gods. First, by assembling subjects and objects together, accounting entries acted as a store (Assmann, 2006) of offerings whereby present and future Pharaohs could ascertain the items of offerings in their variety, numbers, locations, and times. Second, by placing a relative *valuation*, through the use of monies of account, accounting entries rendered the '*values*' of offerings visible to all. With such valuation, there was no hiding place, for the Pharaohs had to demonstrate their doing of *Maat* by making offerings of sufficient value to befit great Pharaohs and gods. Third, entries of offerings were temporally designated, hence offerings were temporally embedded. Accounting endowed the deeds of the Pharaohs with salvational and eternal qualities that were crucial requirements for sustaining kingship as a divine right, immortalizing Pharaohs and reproducing order in Egypt. Accounting inscriptions were the media through which these deeds were re-presented and recorded. The persistence of the inscriptions of these offerings also acted as legitimating media that supported Kingship: by accounting for the offerings, the Pharaohs underwrote their legitimacy and the continuity of their rule, in a notion of time as a cyclical rebirth and as 'First Time' repeated in each year of the reign of each Pharaoh.

Accounting for offerings was thus strongly connected to sacred time as *neheh* (cyclical time) and *djet* (permanent, suspended time). *Neheh* was reflected in the periodicity of accounting entries, with the cyclical recurrence of days of the week, weeks of the month, months of the year, and the years covering the duration of every royal reign. The offering lists and calendars of feasts are examples of *neheh* as regularly recurring, cyclical time, where the motion of time is captured and given concrete meaning by accounting entries that designated offerings by precise calendar dates (see the top parts of Tables 5.1 and 5.3). These accounting entries established an expectation of periodically recurring offerings, thereby underscoring restitution with the gods, and underpinning cosmic and worldly order (e.g., Table 5.2 referring to 'yearly dues'). Accounting entries underpinned *Maat* and order as recurrence or repetition that helped to institutionalize the conduct of public offerings (Butler, 1993: 1998).

The recurrence and magnitude of offerings to the gods were part of a reciprocal relationship that underscored the divine nature of the Pharaohs, by giving back to the gods something (e.g., foods, precious metals) in return for what the gods gave the Pharaohs (kingship) and Egypt (stability and order); a kind of moral calculus of recurring (*neheh*) obligations and entitlements (Maltby, 1997), or provident nature's balance sheet suggested by Goethe, that every Pharaoh was to observe permanently (*djet*). This reciprocity, in terms of receiving and giving, was also an expression of *Maat* and the divinity of the Pharaohs: [God = *Maat*; Pharaoh = accounting for offerings; accounting for offerings = *Maat*; God = Pharaoh]. Such offerings were an instance of a discharge of accountability by the Pharaoh as underpinned by *Maat*, as a quintessential expression of a concept of accountability that transcended the three realms of the ancient Egyptian world. By rendering an account of kingly offerings to the gods, self, and subjects, Pharaoh and *Maat* were linked and merged into a common identity fusing into one coherent and integrated whole, rendering the temples, with their accounting inscriptions, both a material and a spiritual memorial to the Pharaoh. Accounting entries underpinned *Maat* by quantifying, measuring, and rendering visible '*valuable*' offerings to the gods.

The cult of the 'dead' Pharaoh was celebrated in honor of his living image, and perpetuated long after his death, combining both notions of sacred time, *djet* and *neheh*:

> "His [the Pharaoh's] terrestrial entity would be fused in Osiris (= the royal tomb), his celestial hypostasis would be absorbed by Re into the cosmos (= the temple of the royal cult): he would be 'Osiris when he reposes in Re—Re when he reposes in Osiris', that is to say, Osiris-Re, or *djt-nhh*, the two unified principles of Eternity and Divine Unity." (Leblanc, 1997: 55)[8]

This transformation which rendered the 'dead' Pharaoh at once Osiris-Re effectively combined the two qualities of sacred time, *djet* (Re)-*neheh* (Osiris), bringing together the two concepts of Eternity and Divine Unity. Such transformation was contingent upon demonstrating that the 'dead' Pharaoh had done *Maat*, discharged his accountability appropriately as evidenced by him rendering an account via accounting inscriptions, of regularly recurring offerings and gifts of the 'right' quantities and value during his life on earth before joining the gods in the sky to assume his other life.

To articulate further the connection between accounting, order, and time, it is worth quoting Assmann's (2002: 72, original emphases) observation on the significance of the calendar in ancient Egypt and adapting it to accounting:

> "The ritual calendar was not just a representation of the cosmos, but a cultural form that stabilized the cosmos it represented. The motive for repetition was . . . the conviction that the cyclical stability of the cosmos is constantly in jeopardy and has to be sustained by ritual repetition. The ritual institutionalization of permanence thus has a cosmic significance: it generates *cultural* order with a view of sustaining *cosmic* order; *memoria* is raised to the rank of cosmogony. The world is commemorated in order to counterbalance the perpetual drift toward decline, inertia, entropy, and chaos."

This quote applies to accounting inscriptions with equal force. The repetition of accounting entries in a cyclical periodicity engendered a cultural order that underpinned the concept of *neheh* time as cyclical and recurring, ensuring the perpetuation and stability of cosmic order. This accounting-inspired order acted as a counterbalance to the destructive forces of disorder so that the cyclical continuity of the cosmos could be sustained. Whilst reflecting cyclical time, periodicity and recurrence (*neheh*), accounting simultaneously underpinned the suspended, unchanging concept of time (*djet*). By emphasizing recurrence, the repetition of the flow of offerings from the Pharaohs to the gods on a regular basis (e.g., 'yearly dues', Table 5.2), accounting inscriptions underpinned the endurance, Everness, and perfectivity of annual offerings in measured amounts/values expected for perpetuity as an unchanging permanence. At the same time every month, every year, or every festival, accounting entries, at times supported by written texts and pictorial scenes, rendered visible for all to see the regular recurrence of offerings as if nothing ever changes. This cyclical continuity, or 'business as usual', reinforced the continuity of time itself, and constructed a reality of a world in which all that was expected was both a reflection of the past, and a continuation into the present and future projected into Eternity (*djet*).

For the ancient Egyptians, accounting performed two complementary roles in the temples. First, as a set of performative rituals, it bonded the human world in its daily routine with the sacred circularity of cosmic life. By bringing these two realms together, accounting entries recording the recurring ritual of offerings ensured regeneration as a 'First Time' and, with it, continuity of life after death. Second, by visualizing restitution and reciprocity in entries of offerings, accounting served to sustain cosmic circularity and continuity.

Accounting, Order, and Space

The three realms of the ancient Egyptian world (the cosmos, the earth, and the netherworld) converged into the sacred space of the temple and cohered in temple rituals (Shafer, 1998). Accounting functioned as a performative ritual in temple space by rendering such convergence and coherence possible. The inner temple was the sacred space of permanence (*djet*), and accounting inscriptions were super-imposed upon this space, providing a ritualized coherence to offerings and other temple activities by valuing and inscribing them. The ceiling of the inner temple, populated with stars, was modelled on the cosmos (Wilkinson, 1994). It was also an architectural statement that underscored the reverence and standing of this religious institution as well as its practitioners, the priests. Macdonald (1989) has noted in the context of contemporary UK professions (e.g., accountancy) how these professions' quest for achieving respectability and social status led them to construct very impressive, ostentatiously ornate, imposing buildings in the most expensive locations. While care should be exercised in extending this argument to the ancient world, linking the quality of temples to the desire to endow religion and priests with social status and respectability has certain attractions. Social status was enhanced further through the engraving of accounting inscriptions of offerings on temple walls that served as a powerful reminder of the connection between offerings and cosmic order. The regularity underscored by the accounting inscriptions of offerings visualized and underpinned the stability of offerings over time, and emphasized the notion of *djet* as unchanging permanence. It was also in this sacred space that the Pharaoh as an ethical ruler doing *Maat*, demonstrated through inscribed entries of offerings as a rendering of moral accountability entailing restitution and reciprocity, forged an orderly link between his subjects and the gods so that the dead could be granted safe passage in the journey through the netherworld. This was reinforced through the periodicity of accounting inscriptions, as performative rituals, recording annual offerings, so that the benefit of safe passage could extend to all those who joined the netherworld since the previous offerings were made.

The secular space of the temple was the location of worship, cult preservation, building work, and administrative duties. The administration of this space through accounting served to condition the meaning of order by rendering space knowable and orderable (Bauman, 1993). The intervention of accounting rituals imposed a measure of order on a variety of activities: tasks assigned to individuals were carefully noted, work targets were set and regular reporting on their achievements compared to targets took place as part of the ritual of daily scribal activities (Ezzamel, 2005). This form of accounting intervention into the distinctive, yet intertwined, sacred and secular spaces of the temple constructed a measure of coherence and organization in daily life in the image of cosmic order.

The outside walls of the temple were a writing surface for accounting inscriptions, texts, and pictorial scenes of offerings to the gods. These inscriptions, as the writings of the god Djhuty, stood then, as they still stand today, as evidence of rendering a kingly account underscored by *Maat*, and served to inculcate the Pharaoh's subjects with the importance of observing *Maat* in every walk of life. Accounting inscriptions of valuable and regular offerings were an orchestrated set of rituals intended to create a reality in which the preservation of order was of paramount importance as a ritual that legitimized the power of the Pharaoh as a sovereign and a divine ruler on earth.

The dialectic between accounting inscriptions and the monumental architecture of temples contributed strongly to engendering order. Assmann (2002: 63) notes the special connection between hieroglyphs and stone surface in Egypt:

> "hieroglyphic writing is writing on stone. It was designed for the inscription of monuments, just as monuments were designed to be inscribed with hieroglyphs. In Egypt, stone structures and inscription—building and language—achieve a unique connection, constituting a 'monumental discourse' that reflects an unprecedented attempt to construct sacred time."

Through the inscribing of accounting entries upon the inside and outside walls of temples, accounting discourse became intertwined with this architectural discourse. Temple space was rendered malleable to accounting inscriptions detailing offerings to the gods. Accounting discourse colonized both the interiors and exteriors of temples: the worldly activities conducted within were underpinned by an accounting-inspired form of restitution and reciprocity, and the outside walls were covered by the entries of gifts and offerings underpinned by a moral calculus of reciprocity. The resulting combination, a monumental discourse of architecture and accounting endowed with calculation, produced stunning visual evidence of how the Pharaohs attended to the gods, discharged their accountability, observed *Maat,* and sustained cosmic and worldly order.

The union of accounting inscription as a performative ritual and the seeming permanence of temple architecture brought together sacred time and sacred space and underwrote each other's ability to promote order and harmony for eternity. With accounting entries of offerings functioning as performative rites and rituals, they constructed (a la Mackenzie´s Parsonian form, 2006b), emphasized and reinforced conceptions of time as recurrence, *neheh* (e.g., 'yearly dues', Table 5.2) and permanence, *djet* (e.g., 'provision for the house of [the pharaoh's] august father [god], Table 5.3):

> "*Neheh*, the generic term for all regularly recurring units of time is cyclical; it is formed and kept in motion by the rites. *Djet*, the unchanging permanence of that which has achieved perfection, is mirrored in the sacred spatial dimension of permanence constructed through the medium of monumental discourse." (Assmann, 2002: 73)

ACCOUNTING TECHNOLOGY AND ORDER

> "when the ordering of the universe was set about, God first began by laying out by figure and number the patterns of fire and water and earth and air." (Plato, 1929, *Timaeus*: 53b)

Given that the aim of this book is to connect accounting, order, and performativity, a pertinent question to ask is: what attributes and qualities did ancient Egyptian accounting possess that rendered it amenable to function as a performative ritual which constructed, underpinned and reproduced order? This section aims to shed some light on this issue. Chapter 3 developed the argument that, generally speaking, accounting is a performative ritual that constructs, reproduces, and underpins order. The concern now is to explore the extent to which this argument can be extended to ancient Egyptian accounting.

First, ancient Egyptian accounting had a specific, technical, noun-dominated vocabulary (e.g., account, list, receipts, revenues, expenses, amount, total, remainder, balance, impost, tax, etc.; see Mandeville, 2010) that made possible the inscribing of objects and activities in a technically precise, parsimonious, and noun-dominated form. Such precision and parsimony created a myth of a neutral and knowing language; neutral because it seemingly avoided judgmental statements, and knowing because it inscribed complex objects and activities via the use of simple, singular terms (e.g., revenue) as if it fully identified and captured this complexity. Neutrality and knowledge in turn engendered and sustained an ordered tapestry of life in the ancient Egyptian world. The precision of a well-ordered numbering system and the ability to mobilize a technical vocabulary made it possible for the scribes to organize their bookkeeping in a tabular format. This format influenced the written and spoken forms of the ancient Egyptian language. According to Baines (1983: 575), in ancient Egypt "The influence of accounting on written language is so great that it ostensibly penetrates even the spoken form, producing constructions that depended on tables rather than on conventional grammar. . . . For nearly half a millennium there is no evidence that continuous texts were written."[9]

Second, ancient Egyptian accounting had access to a highly structured and rule-bound numbering system that was exploited by the scribes to enumerate and organize objects and to construct their values through the use of money of account (Ezzamel and Hoskin, 2002). As Porter (1995: xi) has noted, numbers and systems of quantification can be powerful in supplanting human judgment by quantitative rules that instil a sense of impersonal order. Vollmer (2007: 579) has also argued that numbers, such as those produced by accounting technologies, are implicated in the construction of order as they change social situations and hence the types of order constructed within these situations. To extend the quote from Plato cited at the top of this section, ancient Egyptian accounting operationalized order through the use of figures and numbers. Accounting numbers and values were one means by which order was imposed on the ancient Egyptian world. These numbers and values were bound to specific times and spaces, laying out, as Plato intimated in alluding to God's work, by figure and number the patterns of their world, acting as ancient temporal and spatial ordering devices. The use of aggregations (sub-totals, totals, grand totals), expected theoretical deliveries, actual deliveries, and balances outstanding created an aura of organization, symmetry, accuracy, balance, and transparency; an ordered schema in the image of the cosmos extended into the worldly sphere. The architecture of accounting inscriptions is in itself an architecture of order. And indeed it could be argued that this accounting order prefigured order in the cosmos, the earth, and the netherworld.

Third, ancient Egyptian accounts named individuals charged with responsibility for specific entries concerning activities or objects, thereby marking their precise achievements that could be contrasted later against expected societal norms (of honesty, transparency, collective achievement), while satisfying their desire to inculcate a sense of individual achievement and accountability (Roberts, 1991; Ezzamel, 2002b, 2005). Human accountability, whether institutional (to state institutions) or folk (to members of the community and to self) could therefore be assessed and emphasized. Such human accountability was anchored in time and space, because each entry was typically related to a particular date and location. Thus, even this ancient form of accounting functioned as temporal and special ordering devices that anchored individual entries in time and space. This detailing of human accountability was performative because it articulated society into an ordered and cohesive whole, one in which humans knew their roles and the expectations placed upon them in a way that served to incentivize society to function and re-produce itself.

Emphasizing these technical qualities of accounting is not intended to signal a reification of the accounting craft, but rather to indicate the scope for its practitioners to deploy these qualities in ways intended to serve particular interests. The point to be stressed here is that, equipped with these technologies, ancient Egyptian accounting had the capacity to function as a means of creating and sustaining order. Accounting was an integral part of the cosmic (Chapters 4 and 5) and worldly (see later chapters) spheres. It was a technology that through its emphasis on balancing debits and credits, performing an orderly recording and organization of entries, aggregating individual entries into sub-totals and totals that tallied together, and using a specialist, neutral, noun-dominated vocabulary became the operational counterpart of the ideal of *Maat* as order. It was a way of demonstrating that as a technology that constructs and underpins order in the ancient Egyptian world, the *practice* of accounting *inscriptions* was a model of order in itself. As a performative ritual, accounting functioned as an instrument of power that legitimized social order and constructed it in the image of what cosmic order was thought to be (see Dumont, 1972, on rituals as means of legitimizing order).

In summary, the inscriptions examined so far suggest that accounting can be part of the divine and sacred assemblage. This understanding is complemented by the secular, more familiar roles of accounting ‘in this world’ which is at once differentiated from and also intertwined with the sacred domain. For the Egyptians, society also rested on ethical conduct, underscored by *Maat*, which on earth meant justice and order for all. In the realm of society, accounting played several important roles. As will be seen in the remainder of this book, accounting provided the basis on which a form of order within state institutions could be created and maintained, as the scribes were able to set performance targets, organize work, report, monitor, and control activities, and regulate private exchange of goods in semi-barter transactions.

The analysis in this chapter shows the visualization of the rituals of accounting inscriptions that underscored the importance of making offerings to the gods in the hope of sustaining cosmic and worldly order. Such order instilled an ethic of coherence and balance that connected with the view of cosmic and worldly order aspired to by the ancient Egyptians. It also sorted and systematized activities, minimized randomization (Bateson, 2000), and created a seemingly harmonious world with a clear articulation of what is desirable and what is not (Douglas, 2002). For the populace, this order was invested not only in the gods but also importantly in kingship, as reflected in the presumed ability of the Pharaohs as sovereigns to preserve peace and security and uphold *Maat*.

Part III

Providing for the State

6 Ordering the Taxation Cycle

> "The offspring of a child of Egypt, The overseer of grains who controls the measure, Who sets the harvest-dues for his lord, who registers the islands of new land, In the great name of his majesty, Who records the markers on the borders of fields, Who acts for the king in his listing of taxes, Who makes the land register of Egypt; the scribe who determines the offerings for all the gods. Who gives land-leases to the people, The observer of grains [provider of] foods, Who supplies the granary with grains." (The instructions of Amenemope; translated by Lichtheim, 1976: 148–149)

Taxation has been a major pillar upon which depended state economies from ancient to present times. Because of such importance, tax assessment and collection has typically been brought under state control (e.g., Dowell, 1965; Webber and Wildavsky, 1986; Brewer, 1989).[1] For example, before the mid-seventeenth century, European states relied on financial middlemen and private consortia of tax farmers, agents, and employees of private financiers to raise loans and collect taxes. But from that time onwards, state administrators began to supplant tax farming and to dominate fiscal tax activities.

We know precious little about taxation in the ancient world and how their activities were ordered through accounting. For example, which entities were deemed by the state administration to be taxable subjects? What steps and procedures were used to levy and collect taxes? What kinds of accounting technologies were used in the assessment and collection of taxes, and in analyzing the methods of monitoring the transportation of taxes and their delivery to state granaries and storehouses? To what extent did such ancient accounting provide the basis for an accountability system that enabled the monitoring and control of the delivery and storage of taxes? How did accounting as a technology of enumeration, valuation, and recording order the estimation, levying, collection, and transportation of taxes? It is hoped that the material analyzed in this chapter will shed some light on these issues.

The quote at the beginning of this chapter in part captures what is called here 'ordering the taxation cycle'. It states a set of responsibilities entrusted to the agents of order, the scribes, which entails controlling tax measures, setting tax dues, registering new land, measuring the fields, and listing taxes due to the state. A full 'cycle of taxation' involves the definition of taxable entities, the estimation, final assessment, collection, transportation, and storage of taxes. Throughout the Dynastic history of ancient Egypt, the levying and collection of dues, impost, or taxation, from various institutions and subjects has been one of the main concerns of state administration. The earliest evidence of accounting ever found in ancient Egypt is in the form of tax lists on linen from Dynasty Zero, about 3300 BC (Davies and Friedman, 1998). There is reference during the Old Kingdom (2575–2134 BCE) to tax collection on the Palermo Stone (Clagett, 1992) and to dues collected from various individuals and institutions for the temple of Néferirakarê-Kakai (Posener-Kriéger, 1976; see Chapter 9). There is also an inscription, one of the earliest stages of the 'cycle of taxation', detailing the steps required for the estimation of taxes before cultivation dating to the Middle Kingdom (2040–1640 BCE) (Smither, 1941). These early records have yielded important insights into the relationship between the state and its taxable subjects, and the role of the scribe and the accounting craft in ordering this cycle. However, because of the fragmentary nature of this early evidence, only a basic picture of accounting for taxation in ancient Egypt can be gleaned. The scribes called upon a variety of accounting techniques to document the details they deemed necessary to ensure the orderly running of the taxation cycle. Moreover, these accounting technologies were sufficiently fine-tuned for an ancient system of human accountability to function, whereby accountability could be traced to every individual involved in the cycle of taxation. For any set of taxation transactions, ancient Egyptian accounting expertise emphasized several key characteristics that were evident in all the texts examined in the following discussion. The most critical of these characteristics were the specification of times, the designation of places, the identification of individuals responsible for specific tax-related tasks, and the naming, itemization, enumeration and valuation of different objects (for example, gold and grain) in order to differentiate them from each other. When a specific money of account was used as a common denominator, extrinsic measures were derived that identified the relative values of different objects. When a mixture of monies of account were used for different objects, it was still possible for some measure of extrinsic relative valuation to be obtained because these monies of account could be translated into comparable units of value. Useful as they are, these early inscriptions are very sparse and consequently most of the tax inscriptions drawn upon in this chapter come from the New Kingdom. The first stage in the cycle of taxation (identifying the subjects and institutions deemed taxable) will be examined here.

DEFINING TAXABLE SUBJECTS

During the New Kingdom (1550–1070 BCE) the scribes constructed the following objects and subjects as taxable entities: temples, officials, *khato*-lands, and ordinary people.

Temples

Temples in ancient Egypt were not merely religious institutions but also functioned as important economic organs of the state (Goedicke, 1979; Janssen, 1979a). During the Amarna period, 1353–1335 BCE, the annual tax imposed on each temple and municipality throughout Egypt to support the Pharaoh's cult was enumerated in more than one measure depending upon the type of commodity being taxed (Murnane, 1995: 30):

Silver:	1 *deben*
Incense:	1 *men*-container
Wine:	2 *men*-containers
Thick cloth:	2 rectangular lengths[2]

This enumeration defined the responsibility of each temple towards the Pharaoh's cult, and provided a means of comparing actual dues received against pre-specified tax targets. Order, as recurrence of dues and payment of the amounts of tax levied, could therefore be understood as an exercise in doing *Maat* in that subjects and institutions met their obligations towards the state.

Officials

The question of whether or not state officials were taxed has been the subject of some debate. State officials paid dues imposed upon their offices (*yp.w*), which are to be distinguished from taxes upon ordinary citizens (*b3kw*). To the extent that dues were levied on officials, they could in exceptional cases be remitted by the Pharaoh, as Horemhab, 1319–1307 BCE, has done: "as to the obligation of silver and gold . . . [my] majesty remits it, in order that there be not collected an obligation of anything from the official staff (*knb.t*) of the South and North" (Breasted, 1906/1988, Part Three: 31). The wall decorations and texts in the tomb of the vizier Rekhmire, during the reign of Thutmose III, 1479–1425 BCE (Breasted, 1906/1988, Part Two: 282–291) are intriguing. The scenes depict Rekhmire receiving local officials bringing dues. For each official, the text states their titles, the names of their towns or localities, and an enumeration of the dues. A text located above the head of Rekhmire states: "Inspection of the taxes (*yp.w*) counted to (the credit of) the hall of the vizier of the Southern City, and counted against the mayors, the town-rulers, the district officials, the recorders of the districts, their scribes and their field-scribes, who are in the South . . . ; beginning with Elephantine and the fortress of Bigeh; made according to the writings of ancient time, by the hereditary prince . . . [Rekhmire]." (ibid: 283). Thereafter, a long list of dues is provided, followed by other scenes of dues for the Temple of Amun.

Table 6.1 shows the details, enumeration, and valuations used by the scribes to produce a list of dues specific to the title and location of each official. The list of officials includes a commandant, mayors, scribes, town rulers and recorders. These dues are identified by type of object such as gold, silver, linen, garments, oxen, beads, and bolts. For some items, for example, oxen, pure counting of numbers is used, qualified in some cases by animal age (e.g., two-year-old). Bolts are identified by size (e.g., large)

Table 6.1 List of Taxes Counted*

	OFFICIALAND PLACE	TAX
719.	Commandant of the fortress of Elephantine	40 deben of gold, tribute weight I chest of (mt-) linen ----------
	Scribe of the recorder of Elephantine	6 deben of gold, in tribute weight a pedet of raiment a large bolt
	Kenbeti of Elephantine	2 deben of gold; 2 pedet of raiment; a large bolt: I chest of (mt-) linen
	Scribe of Elephantine	I deben of gold; 2 oxen (ng >w)
720.	Recorder of Ombos Scribe of the Recorder of Ombus	2 deben of gold; ------------ I deben of gold, in tribute weight 3 large bolts; -----------
	Kenbeti oi Ombos	--deben of silver, in tribute weight 4 deben of gold, in tribute weight I ox; I two-year-old
721.	Mayor of Edfu	8 deben of gold, tribute weight A great bolt
	His scribe Recorder of Edfu	Gold (amount?) I ox
	Town-Ruler of Pr-mr-yw	I deben of gold I chest of (mt-) linen; 2 oxen
722.	Mayor of Nekhen	4 deben of gold 3 deben of silver I ox I two-year-old
	Kenbeti of Nekhen	3 deben of gold, in tribute weight I bead necklace [of gold] 2 oxen I chest of (mt-) linen; I chest of (d> w-) linen
—	(Name lost) , top row	Garments, 2 (pdt-) bolts (Linen) I great (sm t-) bolt gold (amount?)
	(Name lost, top row)	I (wn-dw-) ox, 2 yearlings Gold, linen

An uncertain town.

	OFFICIAL AND PLACE	TAX
723.	Town-Ruler of Esneh	---- of silver 8 of gold 2 oxen; grain, linen
	Scribe of the Islands of Esneh	2 deben of gold ½ deben of silver I bead necklace 0I gold I (wn-dw) ox, I yearling; linen (d w-) linen
	Kenbeti of Esneh	2 chests of (mt-) linen grain 2 calves, 2 oxen (s)
724.	Recorder of Gebelen	I deben of gold; 1/2 deben of silver
725.	Scribe of the District of ---	Gold, bead necklace, linen, yearlings;two-year-olds; (numbers lost)
726.	Scribe of the Islands which are in the South (tp-rsy)	2 deben of gold 30 pigeons nb-tmt 2 oxen, 5 yearlings I chest of (mt-) linen
727.	Recorder of Hermonthis	3 deben of gold I0nb-tm>t I chest of (mt-) linen
	Scribe of the Recorder of Hermonthis	Gold (amount lost) (d> w-) linen 2 deben of gold
	Scribe of ---- the District Of Hermonthis	I chest of (mt-) linen 40 pigeons 5 firstlings of the year 2 oxen, 5 yearlings
	Kenbeti of the District of Hermonthis	Grain, honey 4 deben of gold I deben of silver I bead necklace of gold I chest of (mt-) linen (d> w-) linen
728.	Recorder of House of Hathor (Pr-Hthr)	(Lost)

Only the end of the name is preserved. In the second row next to Esneh there is another Kenbeti, whose place-name is lost. He brings gold (amount?), I chest of (mt-) linen, 2 heket of grain, and I heket of grain (sic!).

*Source: J.H. Breasted, Ancient Records of Egypt, Part Two, London: Histories and Mysteries of Man, 1906/1988: 284-285

and linen by chest as a capacity measure. Gold and silver are expressed in *deben* (approximately 91 grams) of weight.

What we have here are inscriptions that both produce and re-affirm order: obligations are specified, itemized, whenever possible *valued* by means of the use of some money of account, recorded against the names of specific individuals along with an indication of his city or location. What these inscriptions produce is an archive that constructs an image of a state in control of its citizens, ordering their responsibilities towards the state, and *storing* this in an archive as evidence for the future.[3]

Khato-Lands

Khato-lands were earmarked to supply revenues to the Crown. They were of considerable sizes, as evidenced from the Wilbour Papyrus (Gardiner, 1948, Vols. II and III; see also Katary, 1989), and included estates owned by local temples, some of which may have been cultivated previously by individuals as temple tenants before the land reverted back to the Crown. Responsibility for collecting the yield (in the form of harvest-tax) rested with some important official of high rank, such as a town mayor, a temple prophet (Gardiner, 1941: 23), an overseer of cattle, or the overseer of the Pharaoh's apartments (Gardiner, 1948, Vol. II: 165). Taxes collected from these lands were then used to support various state purposes, such as payments to workmen engaged on state projects.

Ordinary People

A significant part of state revenues came from tax (*b3kw*) levied against ordinary citizens, who may have ranged from reasonably well-off individuals, such as tenant farmers, to those of more modest means, such as field labourers (Gardiner, 1941: 20–22). Tax was extracted from produce, such as wheat, corn, and other foodstuffs such as cattle, fish, and game. It seems that all citizens with a physical/material produce had to pay taxes, unless they were exempt for some reason; for example, fodder gathered for festive and funerary offerings in the Amarna period, 1353–1335 BCE, was not taxed (Murnane, 1995: 238). Egyptian citizens and subjects in conquered territories were taxed. Foreign subjects paid taxes (*b3kw*), tribute (*yn-w*), or dues (*hsb.t*) as evidenced from a scene from the reign of Ramesses II, 1290–1224 BCE (Breasted, 1906/1988, Part Three: 206), and a text from the reign of Ramesses III, 1194–1163 BCE (Breasted, 1906/1988, Part Four: 82). For example, in the case of Ramesses II, the scenes show tributes collected from the land of the Negroes (Nubia) and from Asiatic countries, which are repeated in the inscriptions from the reign of Ramesses III.

It is clear from this discussion that the tax burden covered temples, *khato-lands*, ordinary people whether living in Egypt or in conquered territories, and possibly officials. In identifying subjects and institutions liable to paying tax, order was affirmed in two ways. First, tax administrators were in a position to define the sources of tax revenue; these were indispensable to the state in securing religious, social, and economic order for it was from these revenues that offerings to the gods, expenses on state projects and infrastructure, and provisions to the population were made. Second, in constructing taxable subjects and objects the state demonstrated its control over its subjects and institutions, thereby conveying a powerful image of a state capable of organizing itself and of securing order throughout its various domains. The stages involved in assessing and collecting taxes will be explored.

TAX ASSESSMENT AND COLLECTION

A carefully laid out process of assessing and collecting taxes emerges from the tax inscriptions in ancient Egypt where, it seems, little was left to chance. At the core of this process was the concern to observe *Maat* as signifying both justice and social order.

TAX ASSESSMENT

Tax assessment involved two interrelated steps: initial tax estimation and final tax assessment. Although most of the material discussed here is drawn from the New Kingdom, some interesting evidence on tax estimation comes from the Middle Kingdom (2040–1640 BCE) (Smither, 1941, see Table 6.2).

The document contained in Table 6.2 is a tax-assessor's journal dating to the end of the Twelfth Dynasty (1991–1783 BCE) and the beginning of the Thirteenth Dynasty (1783–1640 BCE). Although the text does not contain any tax calculations, it shows the scribal activities leading to the assessment of tax. Before tax was levied ultimately on the harvested crop, the land was surveyed and the standing crop was measured. In performing this task, the scribe assessing the tax burden demonstrated his fulfilment of

Table 6.2 Tax Assessment*

RECEIVING…………..
The clerk of land Senebteyfey
,, ,, ,, Seneb
The envoy of the steward…….Hor[i]
The stretcher of the cord Satpehu
The holder of the cords Ibi
Year 2, SECOND MONTH OF INUNDATION, DAY 15
,, ,, ,, ,, DAY 16 (12) Spent in measuring with
,, ,, ,, ,, DAY 17 the clerks of land of the
,, ,, ,, ,, DAY 18 Southern District
,, ,, ,, ,, DAY 19
Year 2, SECOND MONTH OF INDUNDATION, DAY 20
Spent assessing for him the dues in the office of Land of the Northern District, [and]
REGISTERING IN THE O[FFICE OF] THE KING AND OVERSEER OF LAND OF THE NORTHERN DISTRICT REDYNYPTAH.
LIST OF THE NAMES OF THE CLERKS OF LAND WHO ARRIVED FOR THE REGISTRATION ON THIS REGISTERING DAY
THE CLERKS OF THE *Tema* AND CUSTODIAN OF THE REGULATIONS, PAENTYNEY
The clerk of land Senebteyfey
,, ,, ,, Seneb
[The envoy] of the steward……. Hori
The holder of the cord Ibi
The stretcher of the cords Satpehu
YEAR 2, SECOND MONTH OF INUNDATION, DAY 21 (26) Spent [assessing for him the dues
,, ,, ,, ,, DAY 22 in the Office of Land…..
,, ,, ,, ,, DAY 23

---

* Source: Smither, P.C. (1941), "A Tax-Assessor's Journal of the Middle Kingdom", *Journal of Egyptian Archaeology*, Vol. 27, December: 74-75.

the essence of *Maat* by ensuring that his assessment was fair. Such a quality was frequently celebrated in the autobiographies of the Middle Kingdom. For example, the Scribe *D*hwty-nakt-ank stated in his autobiography: "I have done rightness in my conduct, when I probed the heart and assessed a payer by [his] wealth, doing what is praiseworthy for every person, known and unknown without distinction" (Lichtheim, 1992: 28). Although this should not be taken to mean that justice and fairness were always observed in practice, moral and social expectations acted as a strong disincentive for scribes to exploit, falsify, or deceive taxable subjects and institutions when assessing tax burdens.

The tax scribe was accompanied by other officials: the clerk of land, the envoy of the steward, the stretcher of the cord, and the holder of the cords. The clerk of land was deemed the 'custodian of the regulations' related to land registry and to ensuring that land boundaries were observed. The envoy of the steward took 'internal' measures of the land and the crop on behalf of the steward. The stretcher of the cord and the holder of the cords measured the standing crop. Hence, all these officials, while not explicitly called scribes, performed scribal-like duties pertaining to the assessment of taxable crop. One may presume that these officials sought to calculate an estimate of tax, given the uncertainties concerning the Nile inundation, as seems to have been the practice in Roman Egypt (Brunt, 1981), thereby suggesting that accounting for tax underpinned government planning. These officials may have also used as an ancient 'benchmark' previously determined crop ratios as a function of size and quality of cultivated land to estimate taxable crop. Such tax estimation was not haphazard but was invested in knowledge of the land to be cultivated in terms of its size, productivity, type of crop, and availability of water.

While lacking supportive evidence, these meticulous procedures suggest that measures of the standing crop may have been compared against the assessed harvest later on in order to ensure accurate levying of the tax burden on taxable crop. Somewhat less accurate, but fairly pragmatic, markers (for example, number of canals, lakes, wells, and trees of an estate [Kemp, 1983: 82]) were used to estimate the size of the expected crop. These activities were documented and reported to higher offices as means of monitoring scribal activities 'in the field'. In examining the tax-assessor's journal shown here, Smither (1941: 76) notes that "[The scribe] made brief entries of how he spent his business hours and the names of those who worked with him. It is likely enough that officials who travelled on government business were required to make a return to the central office of how they spent their time". Indeed, there is evidence to indicate that written performance reports were submitted by subordinates to superiors on completion of tasks, as in the case of phyles working on state or temple projects (see, for example, Chapter 9) by means of accounting for their performance.

Levying Tax

Once measurement of the harvest was completed, recorded, and checked against estimates based on standing crop, tax liability was calculated by one of the scribes. Another scribe checked the amount of tax proposed against the assessment-lists of the harvest before tax was collected. The scribe whose responsibility was to levy tax on grain was known as 'the scribe of counting grain' (James, 1985: 127). He inscribed a full record of the grain measured so that tax liability could be determined. Measuring vessels, made from wood and bound with leather, of specific capacities were used for this purpose. In the case of grain, these measures reflected some multiple of the *hekat* measure (about 4.5 litres). There are some examples of tax, or dues, levied from the reign of Senusret I (1971–1926 BCE) during the Twelfth Dynasty (Papyrus Reisner II, Section E, Wente, 1990: 43):

> "Year 17, second month of the first season, day 8
>
> It is the city prefect, vizier, and overseer of the six great lawcourts, Iniotefoker, who commands the stewards of the palace administration who are in the Thinite nome:
>
> You must get yourselves readied and outfit(?) yourselves in accordance with all that I have ordered you, and let there be sent downstream to the Residence 150(?) *hekat*-measures of wheat, and double(?) *hekat*-measure of malted barley, and 10,000 *ter*-loaves from each one of you, since I shall reckon them at the residence. To furnish this wheat in the form of new wheat is something to be attained(?). You shall act so that it is readied. And supply a slave-girl of the labor establishment who is able-bodied [. . .] of each one of you with(?) him.
>
> Directed by the dog-keeper Montuhotep's son Montuhotep and Imiotef's son Sonbef of(?) the crew of Siagerteb(?)."

This administrative missive does not specify who the recipients of the message were, but no doubt they were known to the scribes and those carrying the message. Each of these recipients was charged with the responsibility of providing precise amounts of new wheat (150 *hekat*-measures), malted barley (one double *hekat*-measure), 10,000 loaves of *ter*-bread, and an able-bodied slave girl. It is not shown how these tax figures were calculated, and it may be presumed that they were based upon previous calculations. But it is clear from this inscription that the maintenance of the Residence (which was part of the palace complex) required these provisions, levied in the form of dues on the Pharaoh's subjects. Identification of objects or commodities to be delivered (new wheat; malt barley; *ter*-bread, etc.) was rendered clear via accounting enumeration in the form of specific quantities. This calculus used both standard measures (*hekat*, double *hekat*; ter-loaves) and counting to specify tax liability.

Table 6.3 Allocation of Taxation Collection Account*

21. *Summary of these*	A	Southern corn, *hekat*
22. The *nazir*, SaSebek	moored	892 ½
23. The *nazir*, Pepanekhen	the *sahu*	537 ½
24. The *nazir*, Satkheper	*neter*	520
25. The *mer khut*, Ambu	Iusenb	239 ½
26. The *mer u*, Nebsekhtu		440
27. The *sahu*, Nenkhemsen		368
28. The *wab her sa*, Urneb's son, Senbetfi		1020
29. Total		401[6 ½]
30. Amount of annual taxation of what was given for the fraternity which was in the territory of....		5000 (+)
31. [Paid] from amongst this account		4000 (+)

* Source: Griffith, F. Ll. (1898), *The Petrie papyri: Hieratic Papyri from Kahun and Gurob, Principally of the Middle Kingdom*, London: Bernard Quaritch: 54.

There is further evidence on final tax assessment and collection from the Kahun Papyri (Griffith, 1898), Middle Kingdom. Despite the damage to the papyri it is still possible to make some sense of the entries. Papyrus Kahun XVI, 1 (ibid: 54), dating from the late Twelfth Dynasty (1991–1783 BCE), contains a summary of the number of *hekat* of Southern corn that had to be collected and paid by several overseers (*nazirs*), making a total of 4017 ½ *hekat* (see Table 6.3). Moreover, the entries on lines 30–31 show other amounts of taxation paid form the total amount outstanding. In this tax document, accountability can be traced directly to every individual overseer or *nazir*, as the individual tax liability was recorded against the name of each of them. One type of money of account, the *hekat*, was used to quantify tax liability.

Table 6.4 Taxation of Game*

(43) (Title) *Account of the produce [of fowls].*
(44) List of the produce of 100 [*Set*]-duck
(45) Paid to him from amongst this list,

		(Value of each In *Set*-duck)	(Number of each)
(46) *Re*-goose	8	[3]	(24)
(47) *Terp*-goose	4	[3]	(12)
(48) *Zenzen*-crane	2	[3]	(6)
(49) *Set*-duck (sheldrake)	1	[3]	(3)
		[12]	(45)
		===	====

(50) Be subtracted one number: (51) remainder 11. Make thou the excess of 100 (52) over 45: the result thereof is 55. Make thou (53) a repetition of the 11 to find 55: (54) the result thereof is 5 times.

* Source: Griffith, F. Ll. (1898), *The Petrie papyri: Hieratic Papyri from Kahun and Gurob, Principally of the Middle Kingdom*, London: Bernard Quaritch: 18.

Another interesting example relates to the taxation of game. Game keepers had to pay a fixed amount of dues on the stock of animals and birds they owned or those committed to their care. In years of low stock they paid less tax with the tax burden revised upwards when their stock increased. Part of a tax account, Kahun LV.4, late Twelfth Dynasty (Griffith, 1898: 18) is shown here.

In taxing game, the scribes first inventoried and then valued the stock of each type of game. As Griffith (1898: 18) notes: "The contributions were made not all in one payment, but at intervals during the year, and the scribes had continually to draw up, mentally or in writing, "balance sheets" of the state of the account." Table 6.4 shows the amount of tax levied on certain types of geese, cranes, and ducks. Unlike the previous account dealing with the taxation of corn where the product is homogeneous, in taxing game the scribe was faced with a mixture of heterogeneous objects. These different types of birds were reduced to one common denominator by using the *Set*-duck as a 'money of account' in order to place a value on each type of bird that is meaningfully comparable across all types. The aggregate amount to account for is stated in line (44) as 100 *Set*-duck. The number of birds inventoried in each category (second column) is multiplied by the relevant value indicator for that category in *Set*-duck (first column) to arrive at the total value of tax (third column; added by Griffith in his translation to make the account clearer). Against the total due of 100 *Set*-duck, only 45 were inventoried, leaving a remainder of 55 *Set*-ducks (line 52). It is not clear why the scribe of the account appears to employ yet another denominator, that of 11, to convert the remainder of 55 *Set*-ducks into 5 times that number of 11 (line 54).

The estimation of taxable crop before harvest known from the Middle Kingdom continued into the New Kingdom. In estimating the produce of cultivated land, proxies for taxable crop such as the size of the plot, its quality, and its supporting facilities like lakes, canals, etc. were used to estimate tax. Gardiner (1941: 20) notes how the role of the scribe was "necessary to check the amount of tax with the assessment-lists". Once the crop was reaped, tax liability was determined more precisely. The purpose of estimating tax liability is not stated in any of the surviving documents. However, given the interest of the ancient Egyptians in order, the scribes would have been concerned to plan work on state projects and in other state institutions, and to establish yardsticks for levying the tax burden. As indicated in the opening quote to this chapter, the scribes were central to tax assessment and collection; they were the agents of producing and reaffirming order in the tax domain, just as they were in all other domains, as indicated by the details of their duties. Further, in Papyrus Harris I (reign of Ramesses III, 1194–1163 BCE), the Pharaoh, addressing his god, states (Breasted, 1906/1988, Part Four: 167):

> "I made for thee archers and collectors of honey, delivering incense; I established for them tax officials . . . to conduct them and to collect

> their annual impost for thy august storehouse, in order to fill the magazines of thy house with numerous possessions, in order to double thy divine offerings, for presentation to thy ka."

Similarly, Papyrus Lansing (James, 1985: 103) states: "The scribe moors the river bank. He estimates the harvest tax, attended by the lackeys carrying staves, and Nubians with clubs", with such punitive threats "Nubians

Table 6.5 Land Tax Assessment*

108 THE HOUSE of Ra'messe-ma<a-miamun

MEASUREMENT made to the north of the backland of Sma<a:

Land cultivated by the cultivator Meron 30, mc. 5, mc. 150

Apportioned for the House of Thoth of P-Wadjoi sacks 11 1/4

109 THE HOUSE of the (King's) Great Wife Henw<ote.

MEASUREMENT made to the north of the backland of Sma<a:

Land cultivated by the cultivator Penhasi 10, mc. 5, mc. 50

[Apportioned for] the House of Thoth of P-Wadjoi sacks 3 1/4

110 THE HAREM in Memphis:

DOMAIN of this house under the authority of the Mayor of Har[dai].

MEASUREMENT made in the island north-east of [the Vill]age of Inro[y]she[s]:

Land cultivated by the hand of the quartermaster Pentwēre land-cubits 300.1/3. 6 2/3 makes (taken) 2,000,

mimi, sacks 5

111 THE HAREM (in) Mi-wēr:

DOMAIN of this house under the authority of the overseer of cattle of Amun.

MEASUREMENT made in the pa<ĕ-land east of the House of Thoēris:

Land cultivated by the hand of the deputy of the overseer of cattle Hōri land-cubits 50. makes (taken)

333 1/3, mimi, sacks ¾ 1/10 1/32

112 DOMAIN of this house under the authority of the overseer of cattle of Pkatja.

Continued

Table 6.5 Continued

	MEASUREMENT made in the island north-east of [Pi-p-]ma:
	Land cultivated by him land-cubits 100.1/3. 6 2/3 makes (taken) 6[66]2/3, mimi, sacks 1 ½ 1/8 1/16
113	KHATO-LAND of Pharaoh under the authority of the [standard-]bearer of the Residence Merenptah.
	MEASUREMENT made to the north of the backland of Sma<a::
	Land cultivated by the cultivator Pra<nakhte 20, mc. 5, mc.100
	Apportioned for the House of Thoth of P-[Wadj]oi sacks 7 2/4
114	KHATO-LAND of Pharaoh under the authority of [the Overseer of Proph]ets.
	MEASUREMENT made to the south of Pi-[Wayna]:
	Land cultivated by the hand of the prophet Wen[nofrē] 20, mc. 5, mc.100
	Apportioned for the House of Seth, [lord of Pi-] Wayna sacks 7 2/4
115	KHATO-LAND of Pharaoh under the authority of the Mayor of Hardai.
43, 21	MEASUREMENT made in the basin (?) (hnm) south of the Village of Weben:
	Land cultivated by the hand of the quartermaster Pentwēre 8, mc. 5, mc. 40
	MEASUREMENT made to the south of Mi-ēhu:
	Land cultivated by him 12, mc. 5, mc. 60
116	KHATO-LAND of Pharaoh under the authority of the prophet Merybarsĕ.
43, 26	MEASUREMENT made to the south-east of Iy-idhu:
	Land cultivated by him 30, mc. 5, mc. 150
	Apportioned for the House of Nephthys sacks 11 1/4

* Source: Gardiner, A. H. (Ed.) (1948), *The Wilbour Papyrus*, Volume III: Translations, Oxford; Oxford University Press: 45

with clubs" emphasized in order to discourage subjects from falsifying taxable harvest.

Final tax assessment was obviously an important part of the taxation cycle, as described by a tax scribe (James, 1985: 129):

> "The harvest of the crown lands of Pharaoh—may he live, be prosperous and healthy—which are under my lord's control, is being reaped with excellent attention and good care. I note down the ass-loads of barley which are cut daily with the sickle, and arrange for their removal (from the fields). The threshing floor is set out, and I shall arrange for a level area to be set out for 400 ass-loads. At midday, when the barley is hot, I put all the people who are cutting with sickles on to gleaning, with the exception of the scribes and weavers who make away their daily measure (of grain) from the gleaning of yesterday."

These quotes outline the seemingly precise, orderly, and systematic manner by which the scribes estimated the harvest tax, oversaw the reaping of the crop and its transportation from the field to the well-prepared threshing floor, and measured the ready crop in order to levy the appropriate tax burden.

The Wilbour papyrus (Gardiner, 1948) contains numerous examples of harvest-tax assessments. The details of the text cover *khato*-land (Crown land) tenure for various individuals (see Table 6.5). Along with the exact measures of land determined for each plot assigned to a given individual, there is frequently an assessment of harvest-tax. The land measures are given in *aroura* (an *arorua* = 2,735 sq. metres, or about two thirds of an acre). The harvest-tax or rent due was assessed in terms of capacity measures, such as *khar*, (72.68 liters), *oipe* (19.22 liters or 1/4 of *khar*), and *hin* (1/10 of *oipe*). Table 6.5 shows two different types of crop collection: quantities of seed required for cultivation and dues on cultivated land.

Concerning the quantities of seed required for cultivation, *mimi* (numbers 110–112), the text shows plot measurements in land-cubits, converted into some common denominator using the multiplier 6 2/3 and then the product is converted into sacks of grain. For example, in the part numbered 110 we have 300 times 6 2/3 which gives the figure of 2,000 units. This last figure is then converted into the required amount of 5 sacks of seed. As one sack = one *khar* = four *oipe*; five *khar* = 20 *oipe*; 2000/20 = one *oipe* per 100 units. The 1/3 figure adjacent to the 300 has been interpreted by Gardiner (1948, II: 108–109) as a fraction multiplied by 10 then subtracted from 10 to arrive at the multiplier of 6 2/3. The rate of one *oipe* of *mimi* per 100 units holds for similar entries throughout the Wilbour Papyrus.

In the case of dues (numbers 108–109, 113–116), land is measured in *aroura* (the first number stated) and a multiplier per *aroura* (the second number) expressed as mc, which Gardiner designates as 'measure of corn'. The two figures are then multiplied to produce total corn measures against which dues of about 13 1/3 (or 7.5 percent) are levied.[4] Hence, in the part numbered 108 we have: 30 *aroura* times 5 mc = 150 mc taxed at 13 1/3 (7.5 percent) = 11 ¼ sacks. The mc measure therefore appears to be a common denominator that was used to convert a given plot of land into a figure equivalent to taxable crop. This raises the question: were all plots of land, irrespective of their type or quality, taxed at exactly the same rate?

Table 6.6 suggests that harvest-tax assessment had a strict linear proportionate relation to two factors: area and quality (fertility) of land. The scribes had to assess the quality of each plot of land and determine tax liability per *aroura* as the product of multiplying the number of *aroura* by the appropriate tax bracket for that type of land. The tax scheme had three assessment rates of land quality[5] which occurred with different frequencies (shown in

Table 6.6 Levying Tax on the Basis of Harvest Quality

77 THOSE OF THE MANSION of Ra<messe-hek-On in the House of Rē<north of Ōn:

DOMAIN of this house (administered) by the hand of the controller Nebwedjfa.

T MEASUREMENT made in the pa<ĕ-land east of the Village of Djasasati:

34, 4 Land cultivated by the cultivator Penhasi 50, mc. 10, mc. 500

Another 30, mc. 7 2/4, mc. 225

Another 30, mc. 5, mc. 150

Apportioned for the House of Amen-Re, King of the Gods, (in the) domain of the Nome sacks 62 2/4

T MEASUREMENT made in the Lake of Amun:

34, 9 Cultivated land found dry .10

T MEASUREMENT made in the New land of T-Kaha west (of ………..):

Land cultivated by him 10, mc. 5, mc. 50

T MEASUREMENT made to the north of the Castle of Meryrē<:

Land cultivated by him 5, mc. 5, mc. 25

34, 14 Apportioned for the Mansion of Pharaoh (in the) domain of Hardai sacks 1 ¾ 1/8

T MEASUREMENT made in the haru-grove west of this place:
Land cultivated by him 3 AR.,. mc. 5, 15

[Appor]tioned for the Mansion of Pharaoh in the House of Amun, (in) this domain (sacks) 1 1/8

T MEASUREMENT made in the Mound of Re<:

Land cultivated by him 60, mc. 5, mc. 300

34,20 Apportioned [for the] Mansion of Pharaoh (in) this domain (sacks) 22 2/4

* Source: Gardiner, A. H. (Ed.) (1948), *The Wilbour Papyrus*, Volume III: Translations, Oxford; Oxford University Press: 35

brackets) in the whole papyrus, 5 (450 instances), 7 ½ (16 instances), and 10 (25 instances) per one *aroura*. In Table 6.6 these three different multipliers were used for different plots of land cultivated by the same man, Penhasi, hence underscoring the sensitivity of the assessment to the expected productivity and the size of the plot. By varying the tax bracket depending on land productivity the scribes could demonstrate to taxable subjects that taxation was just and fair, the very qualities signified by *Maat* as justice and order.

Tax Collection

How was the process of tax collection designed, articulated, and ordered as part of the cycle of taxation in ancient Egypt? One of the most detailed

Table 6.7 Tax Collections from Different Sources

1, 1 YEAR 12, second month of the inundation season, day 16, under His Majesty the King of Upper and Lower Egypt, the Lord of the Two lands, Menma<re<setpen[ptah, the son of Re<,

1, 2 the Lord of Diadems], Ra<messe-kha<emwese-mereramun, the god ruler of Heliopolis, given life eternally [and for ever …] .

1, 3 DOCUMENT of receipts of corn of khato-land of Pharaoh from the hand of the prophets [of the

1, 4 temples of Upper Egypt which ?] the fan-bearer on the right of the King, the Royal scribe,

1, 5 the general, the overseer of granaries of [Pharaoh, the King's son of] Cush, the commander of southern lands, the leader of the troops [of Pharaoh] Penhasi [ordered to be delivered?].

1, 6 DONE by Dhutmose, the scribe of the great and noble of Necropolis of Millions [of Years of Phar]aoh.

1, 7 [BROUGHT] to the necropolis [of] the corn of khato-lands of Pharaoh by the hand of the prophet of Such [us Pheni].

1, 8 [SUMMARY] of receipt of it:

The bottom third of the page is lost. It was probably blank, since p.2 appears to be the direct continuation.

2, 1 RECEIVED in Year 12, second month of the inundation season, day 16, in the town of

2, 2 Imiotru by the scribe Dhutmose and the two janitors from the hand of the prophet of Suchus Pheni, the scribe Sahtnufe and the deputy-superintendent of the House of

Continued

Table 6.7 Continued

	Suchus
2, 3	Pwonesh, of the corn of khato-lands of Pharaoh 54 2/4 sacks. The Northern loam: from the
2, 4	hand of the Medjoy-policeman ‘An khatir, corn of harvest-tax 80 sacks. Total, 134 2/4 sacks.
2, 5	RECEIVED in Year 12, second month of the Inudation season, day 21, on the roof of the
2, 6	garner by the mayor of the West of the City Pwer<o, of the corn which the scribe of the Necropolis Dhutmose brought from the town of Imiotru. Entered into the first magazine
2, 7	(named) ‘The garner overflows, 131 2/4 sacks; barley, 5 sacks. Total, 136 2/4 sacks;
2, 8	Received in Year 12, third month of the Inudation season, day 19, in the town of ‘Agni
2, 9	by the scribe of the necropolis Dhutmose and the two janitors, corn 33 2/4. 3 2/4 sacks.
2,10	Arrived and delivered to the scribe Nesamenope and the female musician of Amun
2,11	Hentowe in year 12, third month of the Inundation season, day 23, corn, 33 sacks. 3 ¼ 1/8 1/32.
	Deficit, to the account of the fisherman, 2/4 1/16 1/32 sacks, to the account of the fisherman [sic].
	Total, sacks.
2,12	RECEIVED in the town of Imiotru by the scribe Dhutmose and the two janitors (delivered) by
2,13	the hand of the foreigner Pkhal in Year 12, third month of the Inundation season, day 28, 10 sacks. Total come from him, 183 2/4 sacks.
2,14	ARRIVED and delivered to the mayor of the West of the City Pwer’o in Year 12, third month
2,15	of the Inundation season, day 29, of the corn of the foreigner Pkhal, 10 sacks; given to the
	cultivator Pbeki.
3, 1	Received at the City Year 12, fourth month of the Inundation season, day 12, of the corn of the House of Mont, Lord of Thebes, by the scribe Dhutmose of the Necropolis and the two
3, 2	janitors, from the hand of Nesamun, the scribe of the counting of the House of Amen-

Continued

Table 6.7 Continued

	Re, King of the gods, who is under the authority of the prophet of Mont Amenemone, 6 sacks.
3, 3	Details of it: the foreigner Penhasi, 4 sacks; the builder Krur, 2 sacks; total, 6 sacks. Given to the mason Irushare of(?) the ...., ¼ sack (?).
3, 4	Received in year 12, fourth month of the Inundation season, day 13, in the house (called) 'The Portable Shrine of King Usima<re<-miamun', by the scribe of the Necropolis Dhutmose
3, 5	and the two janitors from the hand of the female musician of Amun Mosh<enufe, the wife of the Master of the Portable Shrine Hrainufe, 30 sacks.
3, 6	RECEIVED in Year 12, fourth month of the Inundation season, day 14, from the hand of the cribe of the Necropolis Dhutmose and the two janitors, by the female musician of Amun
3, 7	Hentowe and the scribe Nesamenope, of the com of the Portable Shrine of King Usima<re<tniamun under the authority of the Master of the Portable Shrine Hrainufe. 30 sacks. Entered into the first magazine '(The gamer) overflows'.
3, 8	RECEIVED on this day of the com of the House of Mont, Lord of Thebes, from the hand of the foreigner Usihenakhte, 8 sacks. Previously on fourth month of the [Inundation season, day 1] 2, 6 sacks; total 14 sacks.
3, 9	YEAR 12, FOURTH MONTH OF THE Inundation season, day I 8, setting forth from the West of the City by the scribe of the Necropolis Dhutmose with the boat of the skipper Dhutweshbi and the boat of the fisherman (Kadore).
3,10	RECEIVED in the town of Esna in Year 12, fourth month of the Inundation season, day 20, by the scribe of the Necropolis Dhutmose and the two janitors, of the 402 sacks of corn of
3,11	the House of Khnum and Nebu from the hand of the debuty-superintendent Pwer<o and the temple-scribe Penhasi in the granary of Khnum and Nebu at Esna, 337 sacks. Details of it:
3,12	RECEIVED on this day from the hand of the deputy-superintendent Pwer<o: the cultivator
3,13	Sahtnufe, of his harvest-tax, 120 sacks. Again from his hand and the cultivator Butehamun and the cultivator (Nakht?)amun, 80 sacks. Again from their hands, 6 2/4 sacks. Again from
3,14	their hands, 13 2/4 sacks. Total 220 sacks, put upon the boat of the skipper Dhutweshbi.
3,15	RECEIVED from their hands on this day by the scribe Dhutmose. Put upon the boat of the fisherman Kadore, 98 ¾ sacks. (and) 24 2/4 sacks; total, 123 ¼ sacks.
3,16	TOTAL, 343 ¼ sacks. Given for the expenses, 6 ¼ sacks. [Placed?] to (the credit of)

Continued

Table 6.7 Continued

	Pharaoh, 337 sacks. Balance on the account of the temple-scribe Penhasi, 65 sacks. Total, 402 sacks.
4, 1	RECEIVED in Year 12, fourth month of the Inundation season, day 24, by the mayor of the West of the City Pwer<o, of the corn brought by the scribe of the Necropolis Dhutmose and
4, 2	the two janitors in the boat of the skipper Dhutweshbi and the boat of the fisherman Kadore,
4, 3	from the town of Esna, 337 sacks. Details of it: Arrived and delivered to the mayor, of the corn of the fisherman Kadore, 110 ¼ sacks. Given as rations to the fisherman Yetnufe 1sack; total 111 ¼ sacks. Deficit, 2 sacks. The details of the deficit: the janitor Khensmose, 1 ¼ sacks.
4, 4	Nesamenope, ¼ 1/8 sack; Kadore, ¼ sack.
4, 5	ARRIVED and delivered to the mayor of the West of the City, of the corn of the skipper Dhutweshbi, 203 ¾ sacks. Given for the expenses of the skipper, 20 sacks. Total, 225 sacks.
4, 6	RECEIVED in Year 12, fourth month of the Winter season, day 5, from the hand of the scribe of the counting of the House of Amun Nesamun by the scribe of the Necropolis Dhutmose
4, 7	and the janitor of the Mansion Dhutmose, spelt, 8 2/4 sacks, barley 2 ¼ sacks. Details of it: the chief of the ergastulum Dhutemhab, 7 sacks; the brander (of cattle) Pkhal, 1 2/4 sacks, total 8 2/4 sacks; the herdsman Mi<o, 1 2/4 sacks; the cultivator Khensmose, ¾ sack, TOTAL, 2 ¼ sacks; TOTAL, corn, 10 ¾ sacks.
4, 8	ARRIVED and delivered to the female musician of Amun Hentowe [on] this day in the weigh-house (?) of the House of Maiu (?) by the scribe Dhutmose, 10 ¾ sacks.
4, 9	RECEIVED on this day in the town of Npiimu, from the hand of the herdsman of the Mansion Penhasi, 4 sacks; the chief of Medjoy-policeman, Nesamun, 1 sack; the fisherman Kharoy,
4,10	1 2/4 sacks; the fisherman Pnakhtemtho 1 2/4 sacks.
4,11	RECEIVED in the town of Imiotru from the hand of the scribe of the counting Nesamun from ploughing of the foreigner Iune, 12 sacks; the foreigner Pkhal, 1 2/4 sacks. TOTAL, corn, 13 2/4 sacks.
5, 1	RECEIVED in Year 12, first month of the Summer season, day 9, of the 12 sacks of spelt
5, 2	fetched from the town of Imiotru from the ploughing of the foreigner Iune, together with the 1 2/4 sacks of the foreigner Pkhal, TOTAL, corn, 13 2/4 sacks. The herdsman Penhasi, son of

Continued

Table 6.7 Continued

5, 3	Pkamen, in the town of Nimu, 4 sacks; the chief of Medjoy-policemen, Nesamun, 1 sack, TOTAL, 5 sacks. RECEIVED on this day by the female musician of Amun Hentowe on top of
5, 4	the garner. Entered into the first magazine (The garner) overflows, 12 sacks, 6 2/4 sacks. Entered into the storeroom which is on top of 'the Pure Land', of corn, 18 2/4 sacks.
5, 5	RECEIVED in Year 12, fourth month of the Winter season, day 13, from the hands of the two janitors, of the corn of the store of Pharaoh which is on the account of the scribe of the
5, 6	counting of the House of Amun Nesamun, 4 and 20 sacks. TOTAL COME from him of 72 sacks of corn, 55 ¾ sacks. Deficit 16 ¼ sacks.
5, 7	RECEIVED in Year 12, fourth month of the Winter season, day 13, from the hand of the scribe
5, 8	Sahtnufe of the corn of the foreigner Eroy, 20 sacks. Details of it: the deficit of grain of the House of Suchus, lord of Imiotru, 10 2/4 sacks; grain of the store of Pharaoh which is on the account of Nesamun the scribe of the counting belonging to the House of Amen-Re', King
5, 9	of the Gods, 8 sacks; what the prophet of Suchus paid in excess, 1 2/4 sacks. TOTAL, 20 sacks.
5,10	RECEIVED … from the scribe of the counting of the House of Amun Nesamun of corn of the store of Pharaoh from the hand of ….
5,11	RECEIVED [from the scribe of the counting] of the House of Amun Nesamun. Given to the priest of Mut, 3 sacks … TOTAL (?) ….

* Source: Gardiner, A. H. (1941). 'Ramesside Texts Relating to the Taxation and Transportation of Corn.' *Journal of Egyptian Archaelogy*, 27 (December): 23-34.

tax documents to have survived is Papyrus Turin 1895+2006, from the reign of Ramesses XI (1100–1070 BCE), in which the scribe of the necropolis Dhutmose reported tax collection from various places south of Thebes in order to pay the rations of the necropolis workmen (Gardiner, 1941: 23).

In Table 6.7, the first number on the left refers to the page number and the second refers to line number in the original Papyrus. Page 1 (lines 1–8) indicates the day, month, year of the reign of the Pharaoh, followed by the names of the officials involved in the delivery or receipt of corn from the *khato*-land). The collection and delivery of tax begins on p. 2 of the papyrus (lines 1–15). The amounts of corn received and disposed off are reconciled here (see Ezzamel, 2002a):

Received		Disposed of	
54 2/4 + 80 =	134 2/4	131 2/4 + 5* =	136 2/4
33 2/4 + 3 2/4* =	37	33 + 3 13/32* =	36 13/32
10 =	10	10 =	10
Difference	2		19/32
	_________		___________
Total:	183 2/4		183 2/4
	========		==========

* Entries with this sign refer to barley whereas the remaining entries refer to spelt (emmer).

The totals of the two sides are very close, with 2 sacks missing from those received and 19/32 from those disposed off. The difference of 2 sacks can be traced to the first set of entries, where Dhutmose noted his receipt of two amounts of corn (54 2/4 + 80 sacks) which were then recorded as 136 2/4 sacks entered into the granary magazine. Gardiner (ibid: 26) readily suspects foul play by interpreting this difference as arousing "suspicion of cooking" the books, but of course there is also the possibility of an error made by the scribe. The difference of 19/32 (the aggregate of 2/4 + 1/16 + 1/32) was recorded on line 11 as deficit in the account of the fisherman. Gardiner (ibid: 28) surmises that this difference is made up of 2/4 sack deducted for the fisherman as payment for transporting spelt (emmer) and 3/32 for transporting barley, but the entries do not offer support for this interpretation.

Entries on page 3 can be divided into two parts. Because of damage to the first part (lines 1–8), only the second part (lines 9–16) is examined; this relates to the first five lines on page 4 and covers two main activities: (i) receipts of corn by the tax official from the cultivators and its loading onto the boats, and (ii) deliveries of corn to the granaries:

Receipts

Sacks

Total tax assessment for Khnum and Nebu	402
Balance remaining (with Penhasi)	(65)
______	
Received by Dhutmose from Penhasi and Pwer'o; Details of which:	337

Boat of Dhutweshbi	Boat of Kadore
120	98 ¾
80	24 2/4
6 2/4	

13 2/4				
220	+	123 ¼	=	343 ¼
Less expenses:				(6 ¼)
Credit to the Pharaoh:				337

Deliveries

Boat of Dhutweshbi		Boat of Kadore		
203 ¾		110 ¼		
20		1		
(1 ¼ + ¼ + 1/8 + ¼) =	1 7/8			
223 ¾		113 1/8	=	336 7/8

The receipts part of the text shows that the tax liability of Khnum and Nebu can be fully accounted for in terms of boat loads and the balance for which Penhasi was held accountable. However, there is one anomaly relating to the 6 ¼ sacks entered as expenses, for these do not appear to be part of the tax liability of 402 sacks. It may be that this amount was raised additionally on the volition of the deputy-superintendent from the cultivators (ibid: 31–32), perhaps to ensure that target tax deliveries were met, if such targets were set by his superiors, but this explanation is speculative.

Compared to the previous part, the deliveries part of the text raises more questions. While in total this part nearly balances with the receipts part (337 sacks), the deliveries from each boat do not match with the receipts of each boat. Why did the boat of Dhutweshbi deliver 3 ¾ sacks more than it received? And why did the deliveries from the boat of Kadore fall 10 1/8 sacks short of what was received? In the case of the latter, the expenses of 6 ¼ sacks referred to earlier would have been included, leaving a shortage of 3 7/8 sacks which is nearly cancelled out by the excess delivery of Dhutweshbi (3 ¾ sacks). Could this difference be accounted for by a transfer of load in mid-journey between the two boats? The text does not tell us, nor does it explain why Dhutweshbi received 20 sacks as compensation for expenses whereas Kadore received only ¼ sack (except if the 6 ¼ sacks mentioned earlier were part of his rations). The ambiguity is increased further by noting that in adding up the deliveries from the boat of Dhutweshbi the scribe arrives at a total of 225 sacks instead of 223 ¾ sacks.

The next section consists of parts of the entries on pages 4 and 5 (lines 4.6–4.11; 5.1–5.4), and the reconciliation of receipts and disposals is relatively straightforward except for an amount of barley (2 ¼ sacks). At the beginning of the entries, there are two quantities of emmer and barley received, each quantity divided into its component parts and then totalled. There are 8 2/4 sacks of emmer (7 + 1 2/4), and 2 ¼ sacks of barley (1 2/4 + ¾), the two types adding up to 10 ¾ (as shown in the text) which was accounted for by being delivered to the weigh-house. This is followed by receipts to account for 5 sacks of emmer (4+1) and 3 sacks of barley (1 2/4 + 1 2/4) and then by 13 2/4 more sacks (12 emmer + 1 2/4 barley). Of these quantities, deliveries of 13 2/4 sacks (12 emmer + 1 2/4 barley) and 5 sacks (4+1) of emmer to granaries can be traced, giving a total of 18 2/4 sacks as stated in the text. However, there is no further trace of the 3 sacks of barley (1 2/4 + 1 2/4) mentioned earlier. Gardiner (ibid: 34) surmises that this amount of barley may have been returned to the fisherman Kharoy as fees for transporting corn, but again this is merely a conjecture.

The last part of the *recto* (lines 5.3–5.11) looks like a final summary that aggregates all tax collections and deliveries but any attempt at reconciling these numbers is frustrated by the lacunae. Despite these problems, the accounts have a measure of internal integrity which renders their entries meaningful. This allows us to appreciate the significance of the whole text in terms of its overall organization and its implications for order, accountability and control. For every case of tax collection or delivery, the date and location of the activity are noted, as are the names of all the individuals responsible. The recording system also quantified the precise tax amounts whose collection was entrusted to a scribe or an official, and accounted for the delivery of tax collected to the king's storerooms or granaries. A summary section at the end acts as a check to ensure that the earlier detailed entries add up to the expected total. The responsibility of the individual scribes put in charge of tax collection, and the officials who received the taxes in the granaries could, if required, be traced on a daily basis. Moreover, the aggregate accountability of the scribes in charge of tax collection could also be summed up, as evidenced from the last section of the document (lines 5.5–5.11) which traces the aggregate accountability of the scribe Nesamun.

These detailed calculations were undertaken not with the intention of engaging in a mindless exercise in bean-counting but instead because concern with the relationship between accounting and order is based on the expectation that accounting inscriptions are more or less meaningful. Janssen (2005) has visited, and commented on, this problem of inaccuracy in some ancient Egyptian accounts from the new Kingdom, relating to the necropolis village of Deir El-Medina. He focuses on two types of problems in these accounts: errors and omission. In the case of accounts containing (many) errors, Janssen is of the view that they are "almost useless for administrative purposes" (ibid: 151). In the case of accounts that do not completely record what "they purport to contain" (ibid: 154), he suggests that perhaps this did not represent a major problem, because these lacunae in the accounts would have been compensated for with oral communication by the workmen of the necropolis village (ibid: 157).

While I do not disagree with Janssen's second point, I do not share his views concerning accounts containing errors. Even in those cases where reconciliation of the accounts is made somewhat difficult, as evident in the discussion, the accounts were not useless but were rather the embodiment of order. For only because a significant proportion of ancient Egyptian accounts have an aura of precision, integrity, and internal order, that we have come to view some problems of reconciliation that involve very small numbers as poor practice by the scribes. Even when reconciliation of some entries is rendered difficult, other entries could still be drawn upon to understand how subjects and objects were ordered in these inscriptions. Further, the very *act of inscribing* entries into accounts and the *knowledge that this inscribing takes place* would have had powerful performative effects upon the construction and perpetuation of order, notwithstanding some errors in the accounts.

ACCOUNTING FOR THE TRANSPORTATION AND STORAGE OF TAX

This section examines accounting for tax transportation and storage as part of the orderly cycle of taxation. Transportation of crops from source to ultimate destination posed a control problem for central administration: how to ensure the protection of tax collected in kind from the personal discretion of the scribes and boat skippers who supervised the cargo en-route. In Papyrus Turin 1895+2006 we catch a glimpse of the procedures used to monitor the transportation of taxes from source to state storehouses and granaries. For each boat, the name of the skipper and the amounts of tax entrusted to him for transportation are stated. Once the boat reached its final destination, each skipper had to account for the amounts of tax he transported. However, the significance of Papyrus Turin 1895+2006 relates more to detailing responsibility for tax collection and delivery.

The fleet transporting and delivering taxes either belonged to large temples, such as the Temple of Amun, or to individuals. An example is provided in Table 6.8, as part of Papyrus Louvre 3171 (Gardiner, 1941), Eighteenth Dynasty (1550–1307 BCE). The top part of Table 6.8 details the harvest-tax liability of the cultivator Mahu as equalling 1000 sacks. This liability is then accounted for in sacks to be sent by river to the granary of Memphis: 400 sacks by the ship of Amenhotpe plus 314 sacks by the ship of Hewnufe. Further, 200 sacks were reported to have been taken by the quartermaster of the army leaving a deficit of 86 sacks. The scribe therefore fully accounts for the total harvest-tax liability of 1000 sacks. The entries in 3,1 to 3,10

Table 6.8 Transportation and Delivery of Taxes*

2, 1 THE CULTIVATOR Mahu, son of Amenhotpe, in the Village of Meh(?), harvest-tax, 1000 sacks.

DISPOSAL OF IT, conveyance by river to the granary of Memphis:

- SHIP OF Amenhotpe, son of Neferhotep 400 sacks
- SHIP OF Hewnufe 314 sacks, total 714

2, 5 Remainder 286 sacks

DETAILS of the rest: taken by the quartermaster of the army, ……of Tjuna, 200 sacks.

Deficit with the cultivator Mahu 86 sacks.

- THE CULTIVATOR Nebnufe in the Village of Teti, harvest-tax 50 606 2/4 sacks,

total 656 2/4

2, 9 • DISPOSAL OF IT, conveyance by river to the granary of Memphis by the scribe Penroy:

……

The rest of col. 2 is lost. Col. 3 then continues as follows:

3, 1 • THE CULTIVATOR Amenmose in Mesyt, harvest-tax, 1421 sacks

- DISPOSAL OF IT, conveyance by river to the granary of Memphis by the scribe Penroy:
- SHIP OF Akitesub, son of Amenhotpe 514 sacks
- SHIP OF Hita of the river-journey, being lading of Risha:

3, 5 • Given to him in the Island of Ibi, being corn of cultivator Amenmose, 176 ¾ sacks.

- Given to him in the Village of Idima, being corn of __ditto__ 13 2/4 sacks.
- Given to him in this place in the house of Huy the black, __ditto__ 37 2/4 sacks.
- Given to him for seed of year 10 __ditto __ 80 sacks.

TOTAL GONE OUT 821 ¾ sacks.

3,10 Remainder 600 sacks

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* Source: A. H. Gardiner, (1941). ‘Ramesside Texts Relating to the Taxation and Transportation of Corn.’ *Journal of Egyptian Archaeology*, 27 (December): 57.

are likewise easy to reconcile. The cultivator Amenmose has a harvest-tax liability of 1421 sacks. This is accounted for by: 514 sacks sent by the ship of Akitesub plus four different quantities totalling 307¾ sacks (176 ¾ + 13 2/4 + 37 2/4 + 80) sent via the ship of Hita from different locations, giving an aggregate of 821 ¾ sacks sent and a remainder of 600 sacks (should be 599 ¼). All the elements required to assign accountability to taxable subjects are observed in these inscriptions: designations of the individuals responsible for tax liability by name, title, and location of their threshing floors; amount of tax due; quantities of objects paid out by taxable subjects and to whom; and remaining balance. Given these details it would have been possible for a cultivator to demonstrate the extent to which he has met his tax obligations, and for the tax scribes to track down those who did not pay their tax liability in full. Further, accountability could be extended to other parties employed in the cycle of taxation; the ship captains or skippers who transported the tax, each being held responsible for the difference between his ship's load and the rations permitted for his crew, the store or granary keepers for the amounts they received, and the scribes of the accounts for ensuring regular and correct bookkeeping. A whole chain of accountability could be traced cascading through different layers of the administrative hierarchy.

Just as with the accounts examined before, what these accounts reveal is an image, or a myth, of a state in control of its affairs underpinned by meticulous bookkeeping evidenced in the details discussed here. Every entry can be easily traced to the individual concerned, and responsibility is rendered transparent so that those who perform well and those who do not are clearly identified. This cycle of taxation was enshrined in *Maat*. By clarifying and inscribing the responsibility of each individual an indelible record, indeed a conscious archive and a cultural text of collective memory, was constituted that discursively inscribed tax subjects, their tax burdens, and the extent to which they complied and paid taxes due. The ease with which reconciliations can be made between the accounts enhances perceptions of the integrity of the accounts and engenders a measure of trust in them, which in turn underpins and reproduces order. However, just like contemporary accounting systems, ancient accounting technologies were not immune from human indiscretion that threatened or disrupted prevailing order.

Papyrus Turin 1887 from the New Kingdom reports on a scandal involving the priest of Khnum in Elephantine, and a number of accomplices who misappropriated temple revenues for several years (Table 6.9). The text states from the outset that an annual delivery of 700 sacks of corn was to be transported by ship to the granary of the temple of Khnum. Things ran smoothly until year 28 of the reign of Pharaoh Ramesses III (1194–1163 BCE), when the ship captain fell ill and died. A new captain was appointed by the priest of Khnum and problems ensued almost immediately as 140 *deben* of gold were not delivered to the treasury and corn deliveries to the temple granary were much less than expected.

Table 6.9 Tax Misappropriation*

vs. 1, 7	[Charge concerning the fact that King Usima<re<-miamun], the Great God. …… Cultivator[s] ……..seed so as to cause them to [bring?] 700 sacks of corn to Khnum, Lord of Elephantine, here in the Southern province, and they used to be conveyed by water
1, 8	…………………………………. Elephantine. He (?) conveyed them by water and [delivered] them in full in the granary of the god, and they were received from him
1, 9	every year. Now in the year 28 of [Usima<re<-miamun, the Great God, sickness befell?] this ship's captain and he died. And ………, who was prophet of the House of Khnum,
1, 10	Brought the merchant and … Khnemnakhte and appointed him [ship's captain] ……….. corn there in the Northern province, and he started conveying it by water. But in year 1 of King Hekma<re<-setpenamun, the Great God, he made many defalcations with the
1, 11	corn. And this ship's captain ………………………….140 *deben* of the treasury(?) of Khnum, and so (?) the gold was not in the treasury of the House of Khnum. And as for his (?) defalcations with the corn, it is not in the granary of Khnum, he having taken
1, 12	[it] ……………………..Khnum.
1, 13	[Year 1 of King Hekma<re<-setpenamun, the Great God, there ca]me to Elephantine by the hand of the ship's captain ………..100 sacks. Deficit, 600
vs. 2, 1	Year 2 of King Hekma<re<-setpenamun, the Great God, 130 sacks; Deficit, 570
2, 2	Year 3 of King Hekma<re<-setpenamun, the Great God, 700 sacks; he brought none of it to the granary.
2, 3	Year 4 of King Hekma<re<-setpenamun, the Great God, 700 sacks. There came in the ship of the Sacred Staff by the hand of the skipper Pnakhtta 20 sacks, deficit, 68o.
2, 4	Year 5 of King Hekma<re<-setpenamun, the Great God, 700 sacks. There came for the offerings of the Sacred Staves of Khnum 20 sacks. Deficit, 680.
2, 5	Year 6 of King Hekma<re <-setpenamun, the Great God, 700 sacks. He did not bring it.
2, 6	Year 1 of Pharaoh, 700 sacks. He did not bring it.
2, 7	Year 2 of pharaoh, 700 sacks. There came by the hand of the ships's captain Khnemnakhte 186 sacks. Deficit, 514.
2, 8	Year 3 of pharaoh, 700 sacks. There came by the hand of this ship's captain 120 sacks. Deficit, 580.

Continued

Table 6.9 Continued

2, 9	TOTAL, corn of the House of Khnum, Lord of Elephantine, in respect to which this
2, 11	ship's captain combined with the scribes, controllers, and cultivators of the House of Khnum and made defalcations with it, and they used it for their own purposes, 5004 sacks.
vs. 1, 4	[Charge concerning] their having opened one garner of the House of Khnum which was under the seal of the controllers of the granary who do the controlling (rwd) for the House of Khnum, and they stole 180 sacks of corn from it.
vs.2, 12	Charge concerning this ship's captain of the House of Khnum having exacted produce
vs.2, 13	to the value of 50 sacks, Rome, son of Pen'anuke, and to the value of 50 sacks, Pwakhd, son of Ptjeumyeb, total 2 (persons), making 100 sacks, from year 1 of King Hekma<re<-
vs.2, 14	setpenamun , the Great God, to year 4 of Pharaoh, making 1000 sacks. He used it for his own purposes and brought none of it to the granary of Khnum.

* Source: A. H. Gardiner, (1941). 'Ramesside Texts Relating to the Taxation and Transportation of Corn.' *Journal of Egyptian Archaelogy*, 27 (December): 57.

The Papyrus lists shortages in corn deliveries for nine years. For each year, the scribe noted amounts of corn delivered, deficits, and when no corn was delivered at all in any year the scribe indicated the number of sacks expected to be delivered and stated that "he brought none of it to the granary", implying that the deficit for the year is the full 700 sacks. In three years, no corn at all was delivered to the temple granary, and in the remaining six years only small amounts of corn were delivered. The aggregate tax liability for the nine years was 6,300 sacks of corn (700 x 9), of which only 576 sacks were delivered, leaving a remainder of 5,724 sacks. The text indicates that the deficit was 5,004 sacks, and that the ship's captain, the scribes, controllers and cultivators of the House of Khnum "made defalcations with it, and they used it for their own purpose."[6] These defalcations were an instance of violence that disrupted the cycle of taxation and the ideal of justice and order signified by *Maat*. The Papyrus also records more charges concerning the corruption of officials. A charge was made against someone who opened the granary under the seal of the controllers and stole 180 sacks of corn. Thereafter, another charge was made against the ship's captain for unjustifiably exacting 1000 sacks of corn from two individuals over a number of years for his own use.

This inscription reveals a number of important issues. First, an annual tax/impost was levied and expected to be delivered to the temple granary every year; hence, tax assessment was not an ad hoc arrangement to be determined only when an occasional need arose but was a regular revenue generating process. Second, the annual tax liability was fixed at 700 sacks of corn per year, presumably the annual requirements of the temple, rather than allowing the burden to vary with fluctuations in the Nile level or in the crop due to exogenous forces. This seems to be at odds with 'usual' practice whereby the tax burden related to productivity and size of land (see Table 6.6). Third, given the recording of deliveries, for corruption to persist on such a major scale and over nine years required the collusion of a number of influential officials rather than being undertaken by only one person. For example, in the entries made on the *recto*, the text mentions as accomplices the temple priest, the ship's captain, scribes, controllers, and cultivators. A carefully designed and crafted system of control and accountability may be deemed essential as a defining element of any monitoring system; yet this is never a guarantee against defalcation. In a society that regularly sought order in all domains, like that of ancient Egypt, such massive defalcations would have been considered a major instance of disorder, one that had to be reversed so that order may prevail again. In the final analysis, it was due to accounting inscriptions that a return to order was achieved. For it was because of such detailed entries in the temple accounts of the amounts misappropriated and the names of the culprits responsible that it was possible to charge them for their misdemeanours, thus reasserting order by exercising violence on them. Without these accounting inscriptions, it may have been impossible to pinpoint responsibility for what happened, or even to quantify the amount of deficit.

That such a breach of order was reported in the accounts of the temple is remarkable, because there is a widely held view that most frequently the ancient Egyptian scribes excluded human concerns from their inscriptions or re-presentations of life in ancient Egypt. For example, Baines (1991: 138) notes: "Royal and divine texts and reliefs omitted human concerns, so that there was no place to state the reality that order was not universal. These omissions do not imply a desire to falsify reality, but rather demonstrate a lack of focus on such issues." While this quote accords the scribes the ability to apprehend a 'reality out there', rather than acknowledge their power in constructing reality, the message is still clear: only a few cases of disorder have been inscribed by the scribes. Because day-to-day accounting was not considered divine or royal by the ancient Egyptians, these exceptional inscriptions of disorder are invaluable in providing a glimpse of those occasions when the state of order was construed as having been breached and of the steps taken by the authorities to reassert order.

MAAT, TAX APPEALS, AND THE POWER OF THE SCRIBES

As a measure of observing *Maat* as justice and order, edicts and laws promoted fairness of tax assessment. Taxable subjects and tax officials were instructed to refrain from engaging in fraudulent activities because this was deemed antithetical to *Maat* as the ethical ideal *par excellence*, and recalcitrant individuals were subjected to brutal punitive measures. The Instruction of Amenemope, a literary text dating to the New Kingdom (Lichtheim, 1976: 151, 156–157), reinforces the essence of *Maat*:

> “Do not move the markers on the borders of fields. Nor shift the position of the measuring-cord . . . Do not move the scales nor alter the weights, Nor diminish the fractions of the measure; Do not desire a measure of the fields, Nor neglect those of the treasury . . . Do not make for yourself deficient weights, . . . beware of disguising the measure, So as to falsify its fractions; Do not force it to overflow; Nor let its belly be empty. Measure according to its true size, Your hand clearing exactly.”

This Instruction stipulates that markers of field borders surveying fields for tax estimation had to be precise, those using weights had to be exact, and agreed measures, like those of the treasury, must be used. Such were the exhortations of *Maat*; to be fair to oneself, to the state, and to others by displaying honesty, competence, and accuracy. Similarly, the edict of Horemhab, Nineteenth Dynasty, 1307–1196 BCE, (Breasted, 1906/1988, Part Three: 27) sought to protect taxable subjects against unfair treatment by tax officials, whereby the Pharaoh declares: “[my majesty commands that if any officer is guilty of extortions or theft], the law [shall be executed] against him, in that his nose shall be cut off, and (he) shall be sent to Tharu.” Similar measures were threatened against fraudulent tax officials who kept part of the tax for themselves: “If there be any place [where the stewards shall be tax collecting and any one] shall hear, saying: ‘They are tax-collecting, to take the katha-plant [for themselves]’ . . . it shall be done likewise against them]” (ibid: 27). The edict also considered under-taxation as being equally fraudulent as over-taxation. The Pharaoh warns that in the case of tax officials “requisitioning grain from the citizenry with the estate *oipe* measure of 50 *hin* while they undervalue what is required . . . My person had commanded that one should turn away [from them] entirely to prevent [*them from further injuring*] private individuals by fraud” (Murnane, 1995: 238, emphases in original).

Clearly, we should not overstate the value of this code of behaviour, or contend that it was more effective in preventing abuse and fraud any more than, say, modern law. Of course, in every society there are always those who are intent on breaking codes of behaviour no matter how severe the sanctions are, and this was evidently the case in ancient Egypt as shown in the tax defalcation case discussed earlier and in other instances of disorder examined throughout the book. However, it is also credible to state that *Maat* contributed to engendering an aspired sense of order and justice (as the essence of *Maat*). Awareness of *Maat* is likely to have encouraged taxable subjects who felt hard done by to complain officially about what they judged to be unfair tax assessment. One example contesting tax liability is a correspondence sent from Meron, the mayor of Elephantine, to the chief-taxing master (during the reign of Ramesses XI, 1100–1070 BCE, Wente, 1990: 131):

> "The scribe of Patjauemdiamon of the House of the Votaress of Amon has come. He arrived in Elephantine in order to demand that grain that has been specified for the House of the Votaress of Amon, and he said to me, 'Hand over 100 *khar*-measures of barley', so he said to me even though there are no field holdings yielding such an amount. He said to me, 'It is because of a holding of *khanto*-land[7] of the *gezira* of Ombi (Kom Ombo) that they are being demanded of you', so I was told, although I had cultivated no holding of *khanto*-land on the *gezira* of Ombi. By Amon and by the Ruler, l.p.h.[8], if it be ascertained that I have cultivated a holding of *khanto*-land on the *gezira* of Ombi, it is from me that this barley shall be exacted. It is merely a holding of some free tenants, who pay gold into the Pharaoh's treasury, that those free tenants have cultivated, they regularly handing its gold over to Pharaoh's treasury, whereas I had nothing to do with a holding there."

The fact that an official as important as a mayor felt he was subjected to an unfair tax assessment may signal a significant state of disorder. Perhaps because of his high rank, compared to a poor citizen such as a labourer, he was able to challenge the 'offending' scribe by complaining to the chief-taxing master. The intentions of the mayor seem to have been twofold: first, to revoke what he considered an unjust tax burden relating to the produce of a land that he claims he had nothing to do with, and second, as an official of the state to clear his name and to assert his integrity as an honest man who lives by *Maat*. We do not know how the mayor's pleas were received by the chief-taxing master, but it is significant that the mayor felt he could lodge his complaint formally.

One letter dating from the Twentieth Dynasty, 1196–1070 BCE, (Wente, 1990: 174–175) offers helpful insights concerning counter claims over tax assessment when capacity measures as monies of account were manipulated to collect more tax than what was deemed fair. The correspondence was sent from Henuttowy, the chantress of Amon-Re, to Nesamenope, the necropolis scribe, stating (ibid: 174):

> "As for the mention you made of the matter of those 162.5 *khar*-measures of emmer about which you said, 'Let the scribe Pentahunakhte go and receive them together with the captains, but they should not draw them out by means of a large *oipe*-measure', as you said, your letter reached the palace where the vizier is, and he dispatched the scribe Saroy together with the measurer. He caused them to come bringing an *oipe*-measure that was one *hin*-measure greater than the granary's *oipe*-measure. I went my own self and caused the grain to be received

> while I was there. It amounted to 146.75 *khar*-measures by this *oipe*-measure. This native of the necropolis and the fisherman said, ‘It is 150 *khar*-measures of grain that we measured out for you with the *oipe*-measure of the granary of the Estate of Amon’, so they said. I checked out the *oipe*-measure and told them, ‘I am satisfied with the check. I shall find the grain wherever it is’, so I said to them.”

In this inscription, the tax liability may have been determined correctly with the dispute focusing on what capacity measure was used to collect the tax levied. The scribe measuring the tax collected appears to have used a larger *oipe*-measure than the officially authorized measure in the granary of the Estate of Amun, resulting in an under-measurement by 3.25 *khar* (150–146.75).

What is particularly striking about these examples is the power of the scribes. Complaints were made against tax scribes who wielded considerable power in relation to taxable subjects. To be able to challenge their calculations, a taxable subject had to be well connected, and either be literate and numerate in tax matters or can afford to hire the services of a scribe. That only a small subsection of society was in a position to contest tax claims, leaving the majority of the population powerless in the face of tax officials can be gleaned from various literary sources (e.g., Papyrus Anastasi V, Caminos, 1954; Papyrus Pushkin 127, Caminos, 1977). These texts suggest that the tax burden was heaviest on the lower classes of society, as were the punishments meted out to those who failed to pay. Gardiner (1941: 20) notes that such brutality was experienced by the poor and powerless throughout ancient Egyptian history, and it tended to be exercised on the spot where the crop was located by ‘powerful’ assistants or doorkeepers, such as the Nubians with clubs who accompanied the taxing scribe mentioned earlier. These oppressive incidents are a far cry from the ideal of *Maat* with its emphasis upon truth, justice and righteousness, and they may be taken as suggestive of an enforced notion of unjust order. This may be suggestive of an understanding that accounts of order may not always be built upon foundations of universal notions of justice or equity, for these concepts themselves can be rendered relative and defined in ways that suit the interests of power elites in society.

Just as noted in the context of tax defalcation, we are able to access accounts of disorder only because day-to-day accounting inscriptions were not considered royal or divine, thus at times they noted human concerns and made connections between human suffering and official order (Baines, 1991: 138). Such disruptions of worldly order, small as they seem to be because they are related to individual injury, are nonetheless significant. For any disruption of constructed notions of order, what is construed as an immoral or an unjust conduct of whatever form or magnitude was always considered a potential threat to order everywhere in the ancient Egyptian world: “The association of the general ideals of natural morality with central Egyptian religious values carries with it the implication that loss and depravation could disturb the proper order of things. This disturbance then is not simply a potentially disruptive lack of equity in society; it involves the gods and the cosmic order. Loss is one of many things that may threaten the fragile constitution of the cosmos" (ibid: 141).

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For kingship to secure religious, social, economic, and administrative order, it relied on its institutions and subjects to fill state coffers with revenues from taxation. As is the case throughout this book, the accounts examined in this chapter exhibit a strong measure of internal integrity with an inherent logic to the way the entries were recorded which renders the accounts an important technology of order. Of course, in several cases important details are missing. In the defalcation case discussed here, the shortfall in deliveries was not discovered for nine years, and we do not know the social and official backgrounds of the scribes who colluded in the defalcation. Were they the same scribes responsible for keeping the accounts? What was the purpose of the Papyrus containing the accounts? How did the temple make up for the significant shortfall in its revenues for nine years? The papyrus is silent on all these issues. Yet, despite this it is possible to construct an account of the cycle of taxation that formed the basis of an ancient system of human accountability.

The accounting inscriptions examined in this chapter attest to the presence of a number of key characteristics that collectively formed the basis of an orderly set of procedures for accounting for tax: temporal specification; spatial designation; personal identification; and object naming, differentiation, enumeration, and valuation. Tax was first estimated before cultivation, and later assessed as a final tax liability once the produce or crop was ready. When the final tax assessment was made, the documents stated the date of tax assessment, in terms of day, month, and year of the reign of the relevant sovereign, the location of tax assessment/collection, the amounts of tax liability due for collection, the amounts collected and the remainder, if any, and the final destination and location to which the tax collected was to be delivered. Names of all individuals concerned were noted, in particular the taxable subject, the scribe making the tax assessment, the scribe who collected the tax, the individuals responsible for tax transportation, and finally the individuals to whom taxes were delivered for final storage. These steps named, and traced accountability down to, every individual responsible for a particular stage in the cycle of taxation.

Each inscription named, differentiated, itemized, and counted the objects collected as taxes, such as gold and corn. Also, objects were valued extrinsically. Thus, a money of account, such as the *deben*, was used in some cases as a common denominator against which the relative values of different objects could be assessed, thereby making possible an extrinsic valuation of, for example, corn against gold. In other cases, a variety of monies of account were used within the same document, for example, *deben* for metals, and *khar* or *oipe* for grain. Even though within the text itself it is not possible to construct a direct valuation that allows value comparability across such different objects, it was still possible to do so by going outside the text because the monies of account used in ancient Egypt could be intertranslated into one common denominator.[9]

Despite this system of accountability, instances of disorder in the form of misappropriation of state and temple resources occurred, sometimes on a significant scale. Three observations can be made in this connection. First, no system of accountability, ancient or contemporary, can ever provide a full guarantee against dishonesty and opportunistic behaviour, although one would expect a carefully designed system to minimize the potential and frequency of such behaviour. Second, it took a conspiracy involving numerous groups of very high officials to beat the system, which suggests that manipulation of this ancient system of accountability was not easy. Third, without this ancient accountability system, the nature of collusive behaviour and the extent of loss in tax revenues may have not been discovered, and/or quantified, and those responsible may not have been brought to justice.

These comments lead to a more general issue, that of the relationship between accounting, order, and the state. First, to the extent that the economy of ancient Egypt was structured around redistribution, it is difficult to envisage how such an economy could have functioned without the intervention of accounting. Available inscriptions attest to the important role of administration in this connection beginning at least with the formation of ancient Egypt. A marked development in administration, in terms of overall organization, sophistication, and level of intervention has been noted during the Middle Kingdom (Quirke, 1990). This powerful administrative machinery continued during the New Kingdom, and it is likely that the need for a more effective system of tax assessment and collection was enhanced by the frequent military conquests required to initially acquire and subsequently maintain the large empire built during the New Kingdom. To the extent that this statement holds, it would be consistent with the more recent history of taxation in late seventeenth century England whereby tax practice and organization witnessed a radical development to cover the financial demands of escalating war (Brewer, 1989). If the evidence examined in this chapter is anything to go by, it would seem that, with few exceptions such as the defalcation case discussed earlier, state institutions enjoyed a steady flow of tax revenues over time. Whether this was because the periods covered by the material examined here were of relative economic stability can not be fully attested from the texts. However, it would be difficult to imagine that the flow of resources to state institutions remained the same in periods of serious crop shortages caused by inappropriate Nile inundation levels, for in these situations some crisis measures may have been invoked.

Furthermore, we have seen that the Wilbour Papyrus (Gardiner, 1948) indicates that the extent of land fertility had a direct impact on the level of tax (yield) assessment, thereby pointing to the strong possibility that some measure of taxable capacity was taken into account.

Second, the dependence of the state upon accounting expertise at the various stages of the cycle of taxation created the scope for a complex web of power relations to ensue. It was by virtue of official titles being conferred by the state upon specific individuals that these officials could exercise their accounting expertise, so in the first instance they owed much of their influence to the state. Once authorized as technical experts with a responsibility to act on behalf of the state, the task of these officials was to construct the wealth of taxable subjects so that tax liability could be determined. In so doing, they were inextricably linking the population to the state in a network of dependencies. For order meant that the population expected not only political stability and protection but also the provision of other services from the state, such as security, monitoring and controlling the Nile levels and securing a sustainable livelihood, and in return the Pharaoh demanded resources to support the activities of the state and its institutions. Given the importance of order and the centrality of the concept of *Maat* to the lives of the ancient Egyptians, the tax scribes were expected to ensure fairness at two levels: to taxable subjects and to the state. Taxable subjects expected the scribes to be fair in assessing their tax burdens and to use the correct measures when collecting taxes. Equally, the state expected the scribes to ensure that the appropriate level of tax revenue was levied, collected, and transported to state storehouses. Fair taxes were construed by the state as a just burden for taxable subjects, even though the subjects themselves may have viewed the tax burden to be excessive and unbearable. From the perspective of the state, ensuring that appropriate amounts of tax were collected was deemed essential for the preservation of the state and the perpetuation of order in all domains.

Whenever tax burdens were perceived to be oppressive, the scribes were seen by the population as an extension of the brutal power of the state, taking from the weak and providing for the strong (see Caminos, 1977). Further, the scribes were in a position to misappropriate resources for their own benefit and the consequences of such actions were felt by taxable subjects, especially the poor. Those citizens who were in a relatively strong position could challenge unfair tax assessments and ultimately complain to higher officials. But for the underprivileged or illiterate majority, they may have had little opportunity to seek justice. The power of the tax scribes over taxable subjects is not simply a manifestation of contemporary times but has its genesis at the dawn of history. These disruptions are in sharp contrast to the aspired state of order evidenced in formal inscriptions and official pronouncements. The Pharaohs and their administrators were no doubt able to point to many manifestations of order in society and to construe reported disorder in taxation as there may have been as the exceptions that prove the rule. The schism between the ‘ideal’ and the ‘real’ order was a space upon which articulations of aspirations and experience of order were inscribed.

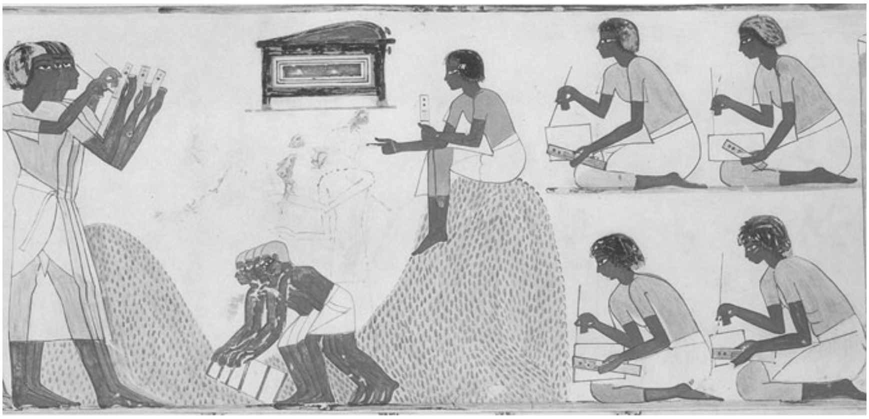

Figure 6.1 Scribes assessing taxes.
**Source:* N.M. Davies, Ancient Agyptian Paintings I, Chicago 1936, pl. L

7 Ordering Transportation

Accounting for the Fleet

The previous chapter focused upon tax matters, in terms of estimating, collecting, and storing taxation. At times tax was collected by town mayors, but in the main these tax tasks were undertaken by the scribes and administrators, all may be called in today's terminology 'civil servants'. The remainder of this part of the book is concerned with accounting and order in other domains of the state, in which ordinary citizens were employed. Work in these domains, as indeed was the case with the tax domain, connects with notions of work and work organization, an issue that is considered briefly in the next section.

This chapter focuses upon exploring how the scribes developed and organized efficient means of logistics throughout the land of Egypt, and further beyond for vast distances to the south and north of the country for trade and war purposes, a pressing concern and a fundamental requirement for the smooth functioning of the state administration and the assertion of kingship. Given these large distances, even by today's standards, it is easy to see why this posed a major challenge for the ancient Egyptians. Many objects and people were no doubt transported by land, but in the River Nile ancient Egypt had a natural resource that could be exploited to speed up transportation up and down the country. Thus, from the dawn of Egyptian statehood, and most likely well before that, the Nile was considered an important means of transportation. This expedience was not simply economic but also political, because it emphasized Egypt's unity and the Pharaohs' control over people and land. Fleets owned privately or by state institutions, such as major temples, were therefore designed specifically for this purpose. Spalinger (2005) provides an excellent account of how the fleet was deployed to facilitate the transportation of army personnel and their supplies. The concern of this chapter, however, is with accounting inscriptions that recorded the activities that took place aboard the fleet. Chapter 6 examined briefly some of the accounting inscriptions pertaining to the transportation of tax (corn) collected from taxation subjects, and hence these will not be repeated here, but the implications of that analysis should be borne in mind when reading this chapter.

Specifically then, the aim here is to explore the role of accounting inscriptions in ordering transportation activities via the River Nile. The focus on river transportation to the exclusion of land transportation is born out of the lack of sufficiently detailed inscriptions relating to the latter. Mining expeditions to Sinai made use of the Nile and the Red Sea. Ships were also used extensively to transport goods throughout Egypt; for example, for tax collection (see Chapter 6), ferrying provisions to state institutions such as temples and public works, transporting building materials, such as stones and wood, and exploiting river resources, in particular fish. Moreover, trade contacts as well as military combats with Egypt's neighbours in Asia relied on the use of the fleet travelling through the Nile into the Mediterranean Sea (Spalinger, 2005). This chapter will focus only upon some of these activities, in particular the transportation of building materials and the distribution of provisions to ship crews. Initially, accounting inscriptions related to ship-loads of stones and other materials are examined with a commentary on the implications of the accounting inscriptions used for the redistributive economy of ancient Egypt. Thereafter, two examples of accounting en-route, inscribed as parts of two ships' logs in the Leiden papyrus and the Turin papyrus are analyzed. The accounting inscriptions examined in the remainder of this chapter reveal a rich tapestry of activities and how they were accounted for and ordered. These activities included monitoring ship cargo as items are transported between different locations, dealing with deliveries and distributions (rations) of foodstuffs and other items, and accounting for trading activities such as exchange of commodities for specific prices.

WORK ORGANIZATION AND THE MEANING OF WORK

Textbooks on work organization (e.g., Salaman, 1979; Thompson and McHugh, 1995) identify specific elements to work that are drawn from industrial and post-industrial Western societies. Literal extension of these terms to ancient Egypt runs the risk of privileging the present over the past. For example, textbooks typically define labour discipline in terms of a rewards/sanctions structure judiciously applied by superiors to motivate subordinates to work harder and smarter towards the achievement of specific targets. There are two immediate problems in pursuing such an emphasis in the case of ancient Egypt. First, only a small fraction of archival material has survived and hence it is likely that much evidence on the existence or lack of reward/sanction mechanisms has been lost forever. Second, and more critically, insistence upon the presence of a specific element of work organization, such as a finely tuned reward system, presumes that this is the only means by which 'labour discipline' can be achieved. In specific contexts, a basic punitive scheme, that severely punishes failure but does not offer material reward for success, coupled with strong social sanctions may function as a potent disciplinary regime. Similarly, as argued throughout this book, *Maat* as a fundamental ethical concept played a crucial role in internalizing discipline into subjects.

Work and Its Meaning

The distinction between 'work' and 'non-work', and indeed work versus leisure, is problematical:

> "Whether any particular activity is experienced as work or leisure or both or neither is intimately related to the temporal, spatial and cultural conditions in existence . . . [W]e should consider the past and present definitions of work as symbols of cultures and especially as mirrors of power: if what counts as work is glorified or despised or gender-related, then the language and practice of work allows us to read embodied fragments of wider social power." (Grint, 1991: 7)

This emphasis upon understanding work as something embodied in 'the temporal, spatial, and cultural conditions in existence' of a particular society is crucial, for it rejects the notion that work can be defined through a set of seemingly objective criteria that are invariant over time and space. Rather, the meaning of work is constructed through a discourse that intersects with other discourses on social interests:

> "the meanings of work do not inhere within the practices of participants but are created, challenged, altered and sustained through the contending discourses: if particular forms of activity are represented through discourse as valued or valueless then the activities themselves take on such characteristics for those appropriating such a discourse." (ibid: 9)

Two observations are pertinent to the arguments advanced in this chapter. First, we may understand the difference between work and non-work as something that resides more within the social context in which activities are undertaken, rather than in the actual activities themselves; in this sense both work and non-work are ambiguous and transient. Second, work does not have to be gainful full-time employment in a profession of the kind to which we are now accustomed, and which has only been known over the last two centuries in some Western societies. As Grint (1991: 10–11) notes, there is a difference between the much broader sociology of work, which is the focus here, and the narrower sociology of occupation and the profession. Nor should the presence of an economic incentive be a fundamental requirement for activities to be designated as 'work'. Religious incantations and, as Malinowski (1984) has observed in the case of the Trobriand Islanders, social obligations may act as powerful incentives to work. Similarly, work may come to an end as soon as the minimum necessary activity has been completed, such as gathering enough food for survival in hunter-gatherer societies (Sahlins, 1972). Whether one ‘lives to work’ or ‘works to live’, the activities involved are discursively constructed as work. These arguments extend to all types of work examined not only in this chapter but throughout the whole book. The discussion in the remainder of the chapter considers inscriptions dealing with how the fleet brought the goods it transported ashore.

In ancient Egypt, the ideology of the state, promoted through religious, artistic and literary texts, centred on the divine right of Pharaohs to secure the submission of their subjects to their royal will in return for Pharaohs providing protection, and subsistence to these subjects via doing *Maat* (see Chapter 2). The Pharaohs invariably had the power to summon their subjects to work on state projects as and when they desired as part and parcel of the myth of a society ordered in the image of the cosmos and ruled by divine Pharaohs. Workers may have derided these chores as an unbearable burden, but such feelings seem to have counted for very little in terms of avoiding the toil of work. Those subjects who were ordered to work in state institutions could be workmen for life, such as the community of workmen in the necropolis village of Deir El-Medina (see Chapters 11 and 14) or may be required to work on specific projects after whose completion they would be released to resume their other normal activities such as cultivation. Those who worked for state institutions for life may also engage in undertaking private work in their spare time, to produce goods either for their household or alternatively to exchange them for other goods in the village market (see Chapter 14).

BRINGING GOODS ASHORE

How did the ancient scribes deploy their technical expertise to monitor and control the ships transporting items needed for state projects, such as stones and timber? What accounting measures and techniques did they use? How did the ancient scribes order the transportation of goods by ships? To address these questions the Ramesseum transportation account is examined by way of example.

The Ramesseum Transportation Account

This account is divided into three sections dealing with brick stamps, foundation deposit, and building memoranda (shipment of stone, etc.) relating to the Ramesseum, the palace of Pharaoh Ramesses II, 1290–1224 BCE (Kitchen, 1996: 447–453). The account comprises three sections: A, B, and C. As the first two sections are brief, the following analysis concentrates on the much longer section C. Further, section C is made up of two parts: part (a) deals with stone shipments, and part (b) deals with other works and contains entries relating to craftsmen and is not of immediate interest for the purposes of analysis undertaken here. Because the entries in part (a) are very similar, only a small part of them is reproduced in Table 7.1.

The entries in Table 7.1 show:

- The name of each ship involved in carrying stones.
- The name of the individual in command of each ship.
- The cubic measures and number of the pieces of each type of stone transported by each ship.
- The total of all stones carried per ship.

This part of the account lists some thirty-one ships and barges. On occasion, the total aggregate of a number of shiploads is mentioned; for example, lines 670:10 list the aggregate stones of lines 669:10 in two entries of 32 stone blocks, making a total of 64 blocks stated as the equivalent of 10 shiploads (not shown here). The space of a ship, or ship capacity, is here ordered (in the sense of being measured and hence made visible and known) by being converted into a metric via the intervention of accounting measures. By indicating the existing location of a ship and its ultimate destination, accounting entries imposed on each ship another type of spatial ordering: these locations spatially anchored the ship as the trajectory of its journey is rendered knowable and hence orderable. As the goods being transported are brought ashore, and once the accounting inscriptions entailing inventorying these goods are made, accounting entries mark the termination of the ship's journey and perhaps the beginning of another cycle of accounting inscriptions tracing the next location to which the goods are taken.

Table 7.1 Shipment of Stones*

THE SHIP OF Thutmose, son of Hori:
Stone of cubits, 3 x 2 x 1.5 - (stones): 3.
Stone of cubits, 2.5 x 2.5 x 1.5 - (stones): 3.
Total, 6.

THE SHIP of Nakhtamun:
Stone of cubits, 2.5 x 2 x 1.5 - (stones): 4.
Stone of cubits, 2 x 2 x 1.5 - (stones): 2.
Stone of cubits, 2 x 1 x 1.5 - (stones): 1.
Total, 7.

* Source: K.A. Kitchen, *Ramesside Inscriptions: Translations, Volume II* (1996), Oxford: Blackwell: 451

These accounting entries are sufficiently detailed to allow the tracing of responsibility for numbers and measures of stone blocks transported by every boat. The mere identification of objects (stone blocks), sizes (measured in cubic measures), and numbers was deemed sufficient to hold the captain of every ship accountable for his performance. This accountability entailed ensuring the delivery of the correct items, but there is no reference in the accounts to any attempt to assess or control the time taken to make the trip from source to ultimate destination.

What is evident from these accounts is that an apparently simple, yet fairly effective, technology of accounting was at work which did not require calling forth the use of a money of account to convert all items into one common denominator. Rather, the accounting entries simply named and counted items. Given that the ship crew, or individual sailors as the case may be, were identified by name along with the ship, and the load entrusted to each of them counted and itemized, it was possible to trace accountability down to the individual boat and its captain. Ordering and accounting for the transportation of items was possible with these seemingly simple accounting inscriptions. Human accountability could therefore be pursued as targets of performance for individuals were stipulated and actual performance was measured. Such individual accountability was enshrined in accounting inscriptions that recorded performance targets and actual achievements, and superiors had the information needed to establish whether or not targets were adhered to. Similarly, drawing on accounting measures of targets and achievements, each individual could demonstrate to his superiors, colleagues, and himself whether or not he discharged his responsibility appropriately and upheld *Maat*. These performative accounting rituals of reporting targets and achievements literally produced a myth of an orderly process in the domain of river transportation.

While these accounts are helpful in facilitating an understanding of how the cargo was accounted for, they do not reveal what else went on while the boat was en route between two destinations. Were members of the crew paid for their services? If so, how were their provisions calculated? Did these provisions differentiate between different ranks or work categories, and if so how? How were provisions for each member of the crew paid? In the case of much larger ships, how, if at all, were responsibilities for specific tasks accounted for? The following discussion explores the extent to which accounting intervened in these activities.

ACCOUNTING EN ROUTE: THE LEIDEN SHIP'S LOG

This section focuses on accounting inscriptions for ships en route in two ship's logs; Papyrus Leiden I 350 Verso (Janssen, 1961; Kitchen, 1996), and Papyrus Turin 2008+2016 (Janssen, 1961).

Papyrus Leiden—Background

The verso of this papyrus contains a scribe's daily notes concerning events aboard a ship. It is likely that these were working daily notes intended to be copied later in a journal after the end of the journey. The Papyrus dates to year 52 of the reign of Ramesses II (Kitchen, 1996: 530). A number of letters were also referred to which have been interpreted by Janssen (1961: 6) as having been sent to prince Kha'emwese, the son of Ramesses II, by way of reporting to him on progress.

The ship's log documents several matters over a given period of time, presumably the whole duration of the trip. Because of damage to the Papyrus, only the full entries for nine days have survived: from day 26 of the 2nd month of Peret (Growing/Winter) to day 4 of the 3rd month of the same season. The ship's log records two types of accounting transactions: receipt of various, mostly food, deliveries from specific sources, and distribution of rations to those aboard the ship. The number of personnel onboard the ship over the entire period fluctuated from a minimum of 26 to a maximum of 40 persons. Four categories of what looks like 'permanent' personnel can be identified: military staff (8–9 people); temple staff (9–10 people) and sailors (two), "people of the house" whose number fluctuated from 6 to 15, and Janssen (1961: 7) reasons that they were "probably passengers on board, who must have belonged in some way or other to the estate of Ptah, since they also received a daily ration of food." Another group of sailors appears twice in the log, and they were different from the normal, 'permanent' sailors as they were referred to as "sailors of the Sem"; they were not

Table 7.2a The Leiden Ship's Log*

Regnal year 52, THE SECOND MONTH OF WINTER, DAY 27, in Pi-Ramesse- miamun. The New-moon festival.
DELIVERIES OF the servant Ptahpterno: fine brad: 80 white triangular loaves of the hall.
DELIVERIES OF the general: fine bread: 100 white loaves.
There arrived the chief of the towing-men Raiay in the morning.
Given to the scribe Sunero: 50 great white loaves.
Given to the scribes, who were imprisoned:
3 normal loaves.
Release of the scribe Ptahmose and the retainers Ptahemmaini and Beki. Afterwards they released the scribe Hartenro in the afternoon. Departure of Sunero and Raia.
Given to towing-men: wine: 1 *mnt*-jug.
Given as loaves to the people on this day: 38 white triangular loaves. Details of it:
servants of the regiment : 9 men;
personnel of the temple : 10 men;
people of the house : 15 men;
apprentices of … Raia : 2 men;
sailors : 2 men.
DELIVERIES OF the charioteer Esse: <wine>: 2 *mnt*-jugs; herbs: 3 bundles.
DEPARTURE of Tjay to bring the *wndw*-cow…

* Source: J.J. Janssen, *Two Ancient Egyptian Ship's Logs*, Leiden: E.J. Brill, 1961: 33.

part of the crew and may have also been passengers. Because the ship's log is rather long, only parts of it are reproduced here.

Accounting in the Leiden Papyrus

The Leiden ship's log contains familiar accounting inscriptions but also several different details not encountered in the accounting inscriptions of other domains of the economy that we have discussed earlier and those that are analyzed in later chapters. The ancient scribes expanded the scope of accounts in an ingenious way to incorporate a wealth of information specific to a fleet on the move. The part of the ship's log shown in Table 7.2a not only designates the entries temporally (exact date, month, season, and regnal year) and spatially (Pi-Ramesse-miamun), it also registers festivals (the New-moon), the arrival (chief of the towing-men) and departure (Tjay) of individuals, and the release of imprisoned (scribes) staff. These details in the ship's log construct an account of those aboard the ship, and render the account a social archive that provides a specific context to the inscribed technical accounting entries.

The accounting entries in the ship's log show a variety of items being received and distributed. In the case of items received, the entries specified the date of receipt, the name of the person who sent the items, the name of his agent, or servant, who carried the items to the ship, the name of scribe who received the items, and a detailed enumeration of the items received and their quantities. For the items distributed as rations, the scribe provided details of the quantities and types of payments given per person. Aggregates of payments were calculated and carried forward and added to the totals of future dates to arrive at grand totals. The detailed entries include deliveries of 80 triangular loaves, 100 white loaves, and distributions of 50 great white loaves and 38 white triangular loaves, the latter to

Table 7.2b The Leiden Ship's Log*

Regnal year 52, THE THIRD MONTH OF WINTER, DAY 3, The sky was (filled) with a strong south wind.

Departure from Tjadyo. Mooring at….. the wind was strong.
Given as loaves to the crew:

sailors of the Sem,	5	men,	each	3	kyllestis-loaves,	makes	15;
people of the regiment,	8	,, ,	,,	2	,, ,, ,	,,	16;
personnel of the temple,	9	,, ,	,,		,, ,, ,	,,	18;
people of this house,	12	,, ,	,,		,, ,, ,	,,	24;
sailors,	2	,, ,	,,		,, ,, ,	,,	4;
scribe Pkaro,	3	,, ,	,,		,, ,, ,	,,	6;
servant Ramessenakhte	1	man			,, ,, ,	,,	2;
given for the herbs							5.

TOTAL 92. PREVIOUSLY 106, Total 200. Remainder 2.

* Source: J.J. Janssen, *Two Ancient Egyptian Ship's Logs*, Leiden: E.J. Brill, 1961: 49.

individuals in five groups, one loaf per individual, in addition to 3 normal loaves to those who were imprisoned. Other minor deliveries and distributions are listed in this part of the account.

In the part of the Leiden ship's log shown in Table 7.2b, there is a list of provisions of rations to individuals, again arranged into groups, where every man received two keyllestis loaves of bread, except for the first group (sailors of the Sem) who each receive three loaves. This suggests some differentiation in the amount of rations between at least one of the groups (sailors of the Sem) and all other men listed in this part of the account. Two additional features of this part of the ship's log are noteworthy. The first is that apart from the familiar temporal and spatial designation of the entries, there is here a statement about the strength and direction of the wind. As we witnessed in Table 7.2a, the inscriptions do not only focus on accounting entries but also include information sought relevant to fleet activities, in this latter case it is the conditions of the wind that were deemed important for a mooring fleet. It was Hemingway (Phillips, 1984: 37) who once advised writers of the great Western novel: "Remember to get the weather in your god damned book—weather is very important". It seems that the ancient Egyptian scribes anticipated this advice; for incorporating information on the weather in the ship's log brought more life and interest to the inscriptions. The second feature is that the rations in this part are aggregated as 92 loaves (there appears to be an error of two loaves, unless there is some other reason for that discrepancy) and then added to a previous total of 106 to yield 198 loaves, which when compared with a figure of 200 loaves available for rations leaves out a remainder of two loaves as stated at the end.

In the final part of the Leiden ship's log (Table 7.2c), some information is provided concerning the place of arrival, the departure of some personnel, some rations given to men, and then a summary of the deliveries

Table 7.2c The Leiden Ship's Log*

Regnal year 52, THE THIRD MONTH OF WINTER, DAY 4. Arrival at Heliopolis in the evening.
Departure of the retainer Mermennufe with a letter to the Sem in the morning.
Given as loaves to the people, 40 men, each 2, makes 80.
White triangular loaves: 150
Summary of the deliveries:

normal loaves:	55		74;	
fine bread: white loaves:	80	used	200 (+ x ?)	
ibst-loaves:	10	used	10;	
milk: *ds*-jugs:	10	used	10;	
wine: *mnt*-jugs:	9	used	7;	remaining 2;
head of living waterfowl:	40	……;		
firewood (bundles)	80	used	10;	remaining 70;
charcoal:	10.			

* Source: J.J. Janssen, *Two Ancient Egyptian Ship's Logs*, Leiden: E.J. Brill, 1961: 50-51.

of different items of foodstuffs/other items, the number used, and the remainder. This summary then brings the deliveries and distribution of rations into a final conciliation while identifying the balances remaining over the whole journey. It is not clear what precise period is covered by this summary and the missing entries make it difficult to reconcile the detailed entries and the summaries.

In taking an overview of the accounting entries listed in the whole of the Leiden ship's log, it is clear that a variety of items are recorded over the period; a bull, meat joints, waterfowl, gutted and un-gutted fish, vegetables, wine, emmer, barley, beer, milk, cakes, breads of different types (e.g., fine and ordinary), crisp biscuits, firewood, charcoal, horse fodder, and carrying poles. The occurrence of each of these items was recorded by the scribe in a manner that shows that the precise type of each is maintained in the entries, rather than being aggregated under more general headings. Yet, despite this variety of items, it is bread that is repeated most frequently in the ship's log. The reason is not hard to find; as argued earlier in the book, bread distribution served two important functions. First, bread formed the basic diet and the ship´s crew had to be guaranteed a sufficient supply of it if they were to survive the journey. Second, bread was used as a method of paying rations in kind, so that not all the bread distribution encountered in this inscription was meant for consumption by the receiver. In this case, the person receiving bread payments would keep enough for his household consumption and trade the excess in exchange for other commodities. It may also be that bread was used as a common denominator to determine the appropriate rations, which may then be paid in bread and the equivalent value of other commodities such as meat, fish, vegetables, herbs, beer or wine. In the case of the ship's log, however, most of the payments to the 'regular' crew are perhaps too small to be taken as full rations, and may have only been intended for consumption onboard the ship. This has led Janssen (1961: 7–8) to suggest that bread rations distributed in the ship's log may have only been part of the payment with additional payments made in different kinds of objects, perhaps before boarding the ship, but without being recorded in the ship's log.

Different categories of personnel were rewarded differentially, so that the accounting entries detailing the rations per category of employee underpinned and visualized the vertical differences separating these categories and thus helped to legitimize and reproduce existing social order. For example, in the entries of day 26, the 2nd month of Peret, the physician Neferhor received 10 white loaves of bread, whereas the scribe Pakur received three ordinary loaves, three vessels of meat, one bundle of vegetables, two jugs of beer, and one flagon of wine. In contrast, the three retainers were given three white loaves (one loaf each). Without knowing the price or value of each item, it is impossible to calculate the equivalent values of these distributions, but the magnitude of difference between what each of the retainers received compared to the physician or the scribe is very clear. Later parts of the ship's log show a much clearer pattern of redistribution, which we will examine.

The pattern of ration distribution seems to treat all members of the ship crew on an even keel. Every military staff, temple staff, sailor, and member of the people of the household received two Kyllestis loaves of bread daily (see the entries for the days 1–3, 3rd month of Peret/Winter). In the case of the entries on day 30, 2nd month of Peret, every military staff received one white loaf of bread, whereas every temple staff, sailor, and member of the people of the household received two Kyllestis loaves. The pattern of distribution suggests an exchange rate of two Kyllestis loaves for one white loaf.

With minor exceptions (the mention of the 4 *deben* at the beginning of the log, and the exchange between white and Kyllestis loaves), the entries designate and count items. Straightforward though this may be, the accounting technology underpinning these entries is far from simple. For those with responsibility to deliver specific provisions, those who were paid in kind, and the scribes who inscribed the entries, an implicit system of equivalence and valuation was at the centre of the distribution of rations. By specifying the precise type of each item received or delivered, for example, meat, fish, fine bread, ordinary bread, beer, or wine, an implicit valuation system was at play which also exposed difference, say of delivering less beer or fish compared to expected amounts. While no metrics to calculate these differentials in value across different items are provided, it would not have been beyond the scribes' competence to have established, and possibly employed, such a metric given their familiarity with the values of different items. Moreover, quite how sensitive this metric was to differences in size or quality of items of the same type, say within the category of bread loaves, is difficult to say, although the bakery accounts examined in Chapter 12 would suggest that such differentiation was easy to make.

For the most part, the level of accuracy of the entries in the ship's log is high, although there are some obvious mistakes. On day 30, 2nd month of Peret, a total of 32 loaves is given, but it is not clear exactly what this total is made of. If it is the total of Kyllestis loaves, then it leaves out the four loaves given to the two sailors. Also, the last entry on day 3, 3rd month of Peret, shows totals of 92 and 106 (an earlier total) which are aggregated to 200 with a deficit of 2. Both Janssen (1961: 50) and Kitchen (1996: 535) suggest that the scribe made a mistake and transposed the total of 160 loaves from the earlier day 2 of the same month into 106. But this is not all, for the scribe incorrectly aggregated the detailed entries of day 3 into 92 when the total should have been 90. Given this, it is possible that these entries were rough workings to be recorded into formal accounts after the conclusion of the journey when the scribe would have had the opportunity to correct any errors.

From a technical accounting perspective, the ship's log can be viewed as a 'distribution' account, where receipts are matched and balanced against payments, with the balances showing surplus (or deficit), thus underscoring the internal order of the accounts as inscriptions as well as constructing an aura of ordered activities. These entries would have served as a means of tracing accountability to the level of each individual involved, allowing the scribes aboard the ship to monitor the inflow of supplies and outflow of payments to ensure that the ship did not run out of provisions while en route, and they would have also facilitated control by senior administrators of those on the ship at a geographic and temporal distance.

Papyrus Turin—Background

This Turin 2008+2016 ship's log papyrus has been dated to the last year of the reign of Ramesses VIII, 1137 B.C. (Janssen, 1961: 56). The papyrus covers at least 17 days (from day 17 of the 1st month of Peret [Winter] to day 3 of the 2nd month of Peret), but the journey from Thebes to Memphis seems to have lasted two months plus these 17 days. Moreover, the entries reveal a busy ship, with numerous types of supplies and distributions involving a wide range of produce, several intricate valuations, along with information about the weather and some of the personnel onboard the ship.

The Turin ship's log provides details of the state of the journey, with an account of the location of the ship on any particular day "[Mooring at] the river bank of Memphis", and the number of days spent since departing from Thebes (e.g., ninth day at the river bank of Memphis). The inscriptions suggest that the eight days from day 17 to day 24 were spent doing little apart from waiting for activities to begin. On day 25 deliveries began to arrive, a large number (5000) of ungutted fish, 200 bundles of rushes, and salt measured in *khar* (sacks) and *oipe*, being 8 sacks and 2 ½ *oipe*, which heralded the beginning of the accounting entries in the Turin ship's log as we will discuss in more detail.

Accounting Entries in Papyrus Turin

As in the inscriptions discussed earlier, the scribe noted the name of the person who made the deliveries and the scribe receiving them, and enumerated the quantities and types of goods received (see Table 7.3a). In addition, unlike the case of the Leiden Papyrus, a variety of quantification technologies were used: fish and rushes were counted, salt was measured by capacity, and sesame oil and garments were valued via the use of a 'money of account'. The entries valued in *hin* (one *hin* = 0.48 liters, and one *deben* of copper, Janssen, 1975a: 108) detail the values of deliveries to account for and then show how they were accounted for in terms of deliveries of garments of fine Upper-Egyptian cloths.

Table 7.3 shows that the guard Amenkha'w delivered 4 *msh* jars of sesame oil (valued at *hin* 55 + 55 + 61 + 41) plus one *mdkt* jar of sesame oil (valued at 54 *hin*), all totaling 266 *hin*, but for some reason this total while aggregated correctly by the scribe is written twice as 262 *hin*. This is followed by two entries with a total of 7 *hin* under the name of the cup-bearer. In return, a number of cloths of differing values totaling 282 *hin* are exchanged, and the values of the oil deliveries (262, rather than 266, *hin*) are written off against the 282 *hin* with a recorded remainder of 20 *hin*. These transactions took place on day 25 of the first month of Peret, Winter, (not shown in Table 7.3). It is difficult to explain the difference between the valuation of oil delivered by Amenkha'w at 266 *hin* and the amount credited to him of 262 *hin*. However, the important point is that we are witnessing here an exchange of sesame oil for garments, for which the intervention of the *hin* as a money of account was called forth to order the relationship between the two parties to the exchange by establishing a measure of reciprocity. A more detailed analysis of similar exchange transactions is undertaken in Chapter 14.

Days 26 to 29 of the first month of Winter were uneventful, with no deliveries received, or distributions made, or exchange transactions taking place. The only thing to note is the amusing mention of the disappearance of the scribe Pra'emhab: "Waiting for the scribe Pra'emhab" on days 28 and 29, but we are not told why he had left the ship in the first place. On day 30 of the first month of Winter, the crew were still waiting for Pra'emhab, and moreover, for eleven other named men who left the ship for the House of Amun on day 20 of the fourth month of Inundation who had not returned (being absent for one month and eleven days). Similarly, little else happened

Table 7.3 The Turin Ship's Log*

Received as delivered by the guard Amenkhaw:
sesame-oil: 4 *msh*-jars and 1 *mdkt*-jar, together 5 (jars), makes 262 (*hin*);
55 (*hin*), 55 (*hin*), 61 (*hin*), 41 (*hin*), 54 (*hin*), together, 266 (*hin*). Again:
Amenkhaw: 262 (*hin*); the cup-bearer……: 1 ((*hin*);
by his hand: 6 (*hin*); together 7 (*hin*).
Account of the trading of them………
3 *d3iw*-garments of fine Upper-Egyptian cloth, each (worth) 22 *hin*, makes
66 (*hin*); 31 *mss*-garments of smooth cloth,
each (worth) 3 *hin*, makes 93 (*hin*);
1 *da3w*-garment of fine Upper-Egyptian cloth, …. Makes 2, together 3,
each (worth) 21 (*hin*), makes 63 (*hin*);
6 *idg*-garments of fine Upper-Egyptian cloth, …. Each (worth) 20 (hin)
makes 60 (*hin*). Together 282 (hin). Re-
ceived 262 (*hin*). Remaining 20 (*hin*).

* Source: J.J. Janssen, *Two Ancient Egyptian Ship's Logs*, Leiden: E.J. Brill, 1961: 71.

on days 1 and 2 of the second month of Winter, except noting the departure of four individuals, and the continued absence of Pra'emhab. On day 3, a search party of four men, with provisions totaling 4 ½ sacks of corn, was sent to Heliopolis on another boat in search for the scribe. We also learn that an earlier search party of five men (one guard and four sailors) had been sent looking for the missing scribe on day 30 of the first month of Winter, making the search party now nine men strong. Later on more details emerge concerning the missing scribe. He was not on his own, but was the head of a party of nine others: two scribes, two guards, one retainer, and a crew of four.

Also, on day 3 we encounter some accounting entries. First, the entries of oil valued in *hin* (Janssen's reading, 1961: 82) are listed twice. The left hand side of the account lists every delivery made by Amenkha'w. The total of the surviving entries comes to 451 *hin*, but the actual total recorded by the scribe is 584, so that we may assume that the two missing entries were equal to 133 *hin* in total. On the right hand side of the account the same total of 584 *hin* is divided into three allocations; 200 *hin* for the House of Amun, and 284 *hin* and 100 *hin* both allocated to Amenkha'w but without specifying why. Janssen (ibid: 82) surmises that the first figure of 284 *hin* may be related to the exchange of garments mentioned earlier, and involving Amenkha'w, whose name is so close to Amenkha'u, which came to 282 *hin* (a small difference of only two *hin*).

A number of entries are then made which involve what we may call a 'freight inventory' of the ship's load. With no warning or explanation, the missing scribe Pra'emhab suddenly emerges on the scene. He is mentioned as one of three key individuals under whose authority the ship is lodged, along with the scribe of the treasury Hori and the guard Amenkha'w. A number of items are inscribed, some only in quantities and others converted into *hin*. In the case of the entries involving counted items, e.g., papyrus, rush, fowl, and fish, three quantities are recorded: delivered, used (presumably while aboard the ship) and balance remaining.

There follows five exchange transactions involving the sale of various garments in return of other goods: 39 garments (or pieces of cloth) exchanged for jars of sesame-oil valued at 350 *hin*; 52 garments traded for 38 sacks of seed-corn of emmer; five sacks of seed-corn exchanged for 20 garments; 14 sacks of gourds traded for 28 garments; and 50 papyrus rolls exchanged for 20 garments. The absence of a precise valuation, in terms of the use of a money of account, in some of the exchanges described, such as the exchange of papyrus rolls and garments, should not be taken to imply that the transactions were ad hoc or based upon vague or implicit valuation. It should be remembered that all these parties to the exchange inhabited a world in which the use of monies of account was a common feature. There is little doubt that, to these exchange parties, a papyrus roll had a given weight and value which would have been taken into account in the exchange. Similarly, the scribe did not note the price of any of the garments exchanged, but he differentiated them into categories of cloth (fine Upper-Egyptian, Upper-Egyptian, smooth cloth) and we can assume that this signified differences in quality and price. What is suggested here is that the types of commodities exchanged had values denominated to them and agreed between the two parties to the exchange, whether or not this is formally reflected in the entries.

Given the variety and large number of garments exchanged, it is likely, as Janssen (1961: 85) suggests, that these garments were manufactured in the workshops of the Temple of Amun. Later on in the Turin ship's log, other entries enumerate the quantities of specific types of garments remaining (totaling 20) which presumably had not been exchanged yet. We appear therefore to be in the presence of a fairly large textile workshop which produced for commercial consumption and sale at specific prices. The remainder of the accounts in the Turin ship's log record deliveries of quantities of itemized goods, with sesame-oil valued in *hin*, and distributions of seed-corn emmer and foodstuffs to some labourers under the authority of the scribe Petrisuamun. Distinctions are made under clear headings of matters such as provisions given to the party that went to search for the missing scribe and his team, items received for exchange purposes and an account of how they have been traded, goods offered in return for the use of the ship, a list of the freight of what is in the ship, the amounts of goods used and the remainder, and items remaining that were not on the ship. Just like the case of the Leiden Papyrus, the Turin inscriptions provide an archive that fleshes out the context of the technical accounting entries, an archive that constructs a dynamic life of activities and off the ship while on its journey or while being moored by the river bank, including those people who left the ship for specific purposes, their absence, and the search parties sent to find them.

The entries in both Papyrus Leiden and Papyrus Turin are both spatially and temporally ordered via accounting entries. Each entry was organized temporally by being preceded by the regnal year, the season, the specific month of the season, and the day. Each ship was also spatially designated as the location of the ship is inscribed for each set of entries at that location (e.g., at the riverbank bank of Memphis, at the river bank of the Pylons of the House of Osiris), the time that has elapsed since the ship departed from a previous location (e.g., the xx days since the departure from Thebes; xth days since the departure from Memphis), and the length of time spent at a particular location (e.g., the xth day in this place). Unlike the earlier entries that registered only the existing location of a ship and its ultimate destination, the entries in the Leiden Papyrus and the Turin Papyrus chart out the route and order the movement of the fleet across its entire journey. These detailed accounting inscriptions, the way in which they traced out the entire journey of a ship and both temporally and spatially ordered its movements would for the ancient Egyptian have created a myth of a world that was rendered familiar, knowable, and certain. It was a world that was constructed by accounting inscriptions that willed it into existence through their performative power.

These inscriptions also constructed an order of importance, as evidenced in the variable rations given to each category of personnel aboard a ship. This order of importance placed a precise social rank on the worthiness of an individual in a particular category, a ranking system that would have helped to both create and confirm a sense of identity as reflected in the pay structure. But this order of social importance also constituted a form of violence as those on the lower rungs of the social ladder are shown to be of less worth than those on the higher rungs. This exercise both in identity confirmation and violence was further underpinned by the accounting metrics that quantified targets of performance and measured actual achievements against targets as inscribed in the accounting entries. Perhaps it is stretching the point a bit too far to cite the example of the scribe who went onshore and the long time the boat had to await his return. Not only was it a matter of waiting, the inscriptions convey a sense of worry over the absence of the scribe, a concern that perhaps would not have been matched had the absent person been a worker or an ordinary sailor. In contemporary times, perhaps a similar absence of a scribe (a modern day accountant) would have given an opportunity for some ironic, sarcastic humor, but this was seemingly not the case in ancient Egypt, for the absence of the scribe represented a form of disorder, a situation that could bring about much more serious worldly and cosmic disorder.

THE TWO SHIP'S LOGS: IMPLICATIONS

The two ship's logs discussed reveal some remarkably rich details of accounting inscriptions relating to a variety of activities performed on the fleet. The ships carried foodstuffs (including perishables like fish), papyrus rolls, and garments. It may therefore be concluded that foodstuffs were intended either for immediate (fish, bread) or later consumption (wine, oil), and were delivered by individuals held responsible for providing for the ship crew and passengers. Moreover, at least in the case of the Turin ship's logs, the ships were used to transport items intended for semi-barter exchange based on agreed prices, for example, garments in exchange for sesame-oil. In Chapter 14, detailed examples of exchange transactions will be examined in some detail, hence the few exchange transactions undertaken on the ship mentioned in the Turin Papyrus will not be analyzed in detail here. Rather, the main concern of this section is to examine the pattern of accounting practices used in the two ship's logs and to explore their ramifications for the role of accounting in constructing and underpinning order.

The accounting inscriptions in the Turin ship's log show greater variety and flexibility compared to those of the Leiden ship's log. Yet, it would be misleading to view this difference as anything more than a matter of preference by the scribes. The scribes of the Leiden Papyrus were concerned to record deliveries and distributions of items. Enumeration and counting of items were considered sufficient for the task at hand. Complications resulting from valuation via the use of a money of account, such as the *hin*, were avoided, presumably because they were considered to provide little added benefit. The scribes would have been concerned to match supplies with distributions of the items needed, for if the ship ran out of provisions of foodstuffs, the crew and passengers onboard the ship were likely to suffer. Although care should be exercised in making express comparisons with contemporary accounting practice, the Leiden Papyrus scribes drew up what looks like a raw materials budget, to provide a modern analogy, in terms of matching production requirements with budgeted purchases. The latter part of the Leiden ships' log shows the scribe noting for each item the total quantities received, the quantities consumed, and the remainder. This apparently simple technology of naming and counting items could be deployed to good effect in tracing responsibility and accountability to the level of the individual to ensure an orderly cycle of deliveries and provisions.

Compared to the Leiden ship's log, the Turin ship's log covers more varied and detailed activities, hence going beyond all the types of activities recorded in the Leiden ship's logs. Like the scribes of the Leiden Papyrus, the scribes of the Turin Papyrus recorded deliveries and distributions of foodstuffs and other items. Here we may note that an apparently simple technology similar to that of the Leiden papyrus was employed; one that relied upon the mere naming and counting of items. Again, the scribes of the Turin Papyrus felt no compulsion to convert these quantities into some common denominator via the use of a money of account, with the exception of sesame-oil that was valued in *hin*. *Maat* as order and the pristine condition of the universe was enshrined in individual accountability that became calculable and reportable via the intervention of the accounting technology. For, as we have noted elsewhere in this book, while *Maat* as a concept was developed at the very apex of the ancient Egyptian society, it was sanctioned socially at the level of the individual, so ultimately the preservation of order was vested in the individual.

It is in the case of semi-barter exchange where the use of a money of account was prominent. To the scribes, and presumably also to the parties of exchange, the nature of semi-barter is deemed different from the activities involving deliveries and distributions. There is at least one good reason for this difference. The activities involving deliveries and distributions would have been regular or frequent, coordinated and organized through administrative rules and procedures along with accounting entries involving only naming and counting items. As long as items were named and quantified, *Maat* was upheld and reciprocity was observed via matching the items and quantities received/paid with those stipulated earlier. The case of exchange, however, is different, because of the absence of administrative procedures that serve to bond, order and regulate the activities and responsibilities of individuals operating within the confines of specific administrative units. Exchange relations are likely to have been based on occasional, ad hoc meetings of mutual convenience, where the owner of one commodity wished to exchange it for another owned by some one else. The two perspective parties to the desired exchange need never transact again, and even if they did in the future, exchange rules may have changed. In this setting, the administrative apparatus that helps in defining and constraining human interactions was absent. By having recourse to a price denominated precisely through the use of a money of account, such as the *hin*, both parties to the exchange can secure reciprocity and observe *Maat* as order and justice. While ancient prices are very different from what in contemporary economic terminology is referred to as market prices (Polanyi, 1957; 1968), the prices denominated through a money of account can be compared for similar items across different places and over time. Such price data, which may be available on a contemporary basis for comparison by recourse to the transactions of other sellers/buyers, stored via their inscription in the accounts, can serve as a guide for concluding a new exchange. The money of account in this case comes between the two parties to the exchange not simply to underpin, but more importantly to construct, the perception of an ordered, economic reciprocity that is deemed essential for the satisfaction of the two parties (see Chapter 14 for a more detailed discussion of these issues).

To recapitulate, a number of key points emerge from this discussion. First, the accounting inscriptions examined in this chapter ordered activities undertaken by ships of varying ownership. State institutions, such as temples, owned their own fleets and so did some private individuals who commanded a fee for the rent of their boats. The scribes deployed the technology of their accounting craft to order, co-ordinate, and monitor the activities undertaken aboard these ships.

Second, the accounting inscriptions concerning the transportation of ship cargo between different locations reveal the use of straightforward, yet effective, accounting technologies which named individual ships, the individual (or crew) responsible for that ship, and listed the detailed items shipped and their quantities, sometimes with finer quantification, such as the use of cubic measurements for the transportation of stones. These entries would have made it possible for the scribes to trace responsibility for deliveries to the relevant individual in charge of a particular boat. Moreover, the quantification of items would have been helpful in identifying responsibility for missing or damaged items.

Third, the accounting techniques revealed in the inscriptions that designated items and quantified them in counting, were also used by the scribes to record deliveries of items and their distribution as rations. The scribes noted the dates on which deliveries were made, the name of the person who sent the deliveries, the agent (or servant) who delivered the items, the official (typically a scribe) in whose presence the deliveries were made, and the individual items received and their precise quantities. With these details, it would have been easy for the scribes to identify who delivered on time and who did not. Similarly, the mention of the name of the scribe present at the time of the delivery endowed the process with legitimacy and authenticity, yet at the same time it also signaled the responsibility of the scribe in relation to the items delivered. In the case of distributions made to the ship crew and other passengers as rations, the recording of these activities acted as evidence of payment (that is, of the state doing *Maat* by honoring its commitments to its subjects) and made possible the tracing of scribal responsibility in this process. By keeping a record of receipts and distributions, the scribes could also engage in some forward planning to ensure matching needs for provisions against supplies.

In these activities, we observe a union between administrative procedures and accounting inscriptions. Administrative procedures determined the rules of engagement. The skipper of a particular ship transporting building material, such as stones, or corn collected as tax, acted according to specific instructions that stipulated what he had to do. Similarly, individuals responsible for providing supplies acted on requirements of precisely what to supply, when and where. Those receiving rations had a clear picture of how much they were entitled to receive of a particular kind of good. As many of these individuals either worked for state institutions (e.g., temples) or were engaged as private labour (e.g., ship skippers), their regular social encounters were ordered via accounting and administrative inscriptions that drew the boundaries and defined the contours of their relationships. The scribes called upon the practice of designation by item and quantification through counting, measuring (e.g., cube measures for stones), and valuing to account for and order these activities.

Fourth, in exchange transactions involving the exchange of some goods for other goods, a money of account, in this case the *hin*, was used to bring the two sets of goods to an equivalent value. Here an economic, and indeed a social, structure of a different kind emerges. No longer can it automatically be assumed that existing social or even economic encounters would be sufficiently ordered to underpin successful exchange relations. The power of the administrative machinery, accompanied with the familiar sanctions and rewards associated with it was no longer considered sufficient. Instead, here we confront a situation where transacting individuals were driven by an urgent need to exchange goods on an ad hoc basis. These same individuals may never engage with each other again in future exchange, and even if they were to do so, the rules of exchange may be different. The social bonds, arising from repeated personal encounters, which tend to cement social relationships under administrative procedures, are unlikely to obtain with the same degree under *infrequent* semi-barter exchange. It is not surprising therefore that the transacting parties felt the need to convert the goods to be exchanged into a common denominator of value via the use of a money of account. Here, the scribe called upon his technical expertise to convert the items exchanged via that money of account so that both parties can be satisfied that reciprocity was observed and *Maat* was upheld. No longer was the designation of items and their quantification through counting regarded sufficient for a perception of a more refined and precise economic reciprocity to be attained. The money of account intervened in the space between both parties to an exchange to construct a refined and precise notion of reciprocity that underpinned orderly exchange.

These are rather a set of straightforward implications concerning the intervention of accounting inscriptions in ordering the activities of the fleet and its personnel. These implications are not novel in themselves, for similar implications have been observed in earlier chapters, and they also resonate strongly with those of later chapters. The point to make in this connection is not one concerning novelty as much as demonstrating the scope of accounting intervention; for it seems that no domain of ancient Egyptian life escaped the attention of the scribes and their accounting craft.

All these implications also connect strongly with the many themes addressed in this book that seek to theorize accounting along a variety of themes: accounting as sign, accounting as myth, accounting as spatial and temporal ordering devices, accounting as a means of identity confirmation but also as a form of violence, and the performativity of accounting. In the accounts contained in both Papyrus Leiden and Papyrus Turin, every entry was a sign that connected the signifier and signified and imparted meaning to each of them. By linking the signifier to the signified, the accounting sign carved out a space in which these two elements became bonded to each other and separated from other systems of signifiers and signifieds, in a sense a space where the specific relationship linking them, as manifest in the accounting sign, becomes a form of knowledge and thereby a kind of order. The frequency, regularity, and systematic manner in which the accounting entries were inscribed constructed a myth of an ordered domain of fleet activities whereby objects and subjects were named, counted, and/or valued using the quantification and valuation technologies of the accounting craft. As we have seen, the accounting inscriptions enshrined in the Leiden and Turin papyri ordered the temporal activities of the fleet by marking each entry with a precise date. These accounting inscriptions also ordered the fleet spatially first by denoting the geographical location of each ship, the places a ship moved through along the trajectory of its journey and the time spent at each location and also since departing from a previous location, and second by converting the activities that took place on board a ship and the ship itself into accounting entries. For example, the cubic measures used in the entries converted the capacity of a ship into a set of accounting metrics. These interventions were performative in the strong sense. For the ancient Egyptians, these accounting inscriptions constructed an ordered domain of fleet activities and brought about a known, certain world where what accounting inscriptions stated was taken as things that have actually occurred. Examples of identity confirming inscriptions have also been examined; these relate to those entries that determined the worth of each individual in a particular category of personnel and the amounts of allocated rations that constructed this position via a calculus of rations and also metrics of actual performance compared to predetermined targets for each individual. The inscriptions contained in the Leiden ship's logs and the Turin ship's logs in particular provide a rich archive and a context of the dynamics that are assumed to take place in a fleet on the move, or even when moored by the river bank. These inscriptions, while retaining the canonical style of all ancient Egyptian accounting entries that are encountered throughout this book (temporal and spatial designation; naming, itemization, counting, and valuing objects and subjects; strict adherence to a special vocabulary, an almost invariable way of organizing and inscribing entries, etc.) show also how the scope of accounting inscriptions can be rendered malleable to include other pieces of information that are deemed appropriate to a particular context.

The ships logs and fleet accounts discussed in this chapter obey all the rules expected of the canonized cultural texts that Assmann (2006) speaks of. They are canonized because they are produced in a systematic, technical, and regular way as if they were mechanically produced rather than being the product of human agency. They are a store of knowledge, a collection of discursive cultural events, and an ensemble of collective social memory or a conscious archive of the type that Foucault (1972) adumbrates. Even when one is so far removed from their time and context, as we are today, these accounting inscriptions still make it possible for us to sample, analyze, and make sense of these discursive events and gain some insight into the collective social memory of the ancient Egyptians.

8 Accounting and Redistribution

The Palace and Mortuary Cult

This chapter examines the relationship between accounting and the functioning of the palace as well as distributions to temple dependants, both the palace and the temples being significant institutions of ancient Egypt. The analysis in this chapter is restricted to those activities that could be conveniently grouped under the term "redistributive economy" thereby exploring the relationship between accounting and the economic activities of the state in antiquity.

Minted coins were not known in ancient Egypt until after the conquest by Alexander (Lloyd, 1983); before then, as we have seen, grain was one of the standard measures of value (money of account) for different commodities, in addition of course to different types of metal, *Set*-duck, and sesame oil.[1] Hence, the economy of ancient Egypt has been described as a "grain economy". As long ago as 1896, Weber (English translation 1976: 41) underscored the importance of grain to ancient Egypt: "the 'storehouse' policies of absolute states, even that of Russia (where they were most developed) were hardly comparable in importance to those of the Babylonian and Egyptian grain storage systems". Broadly speaking, the Egyptian palace-based grain economy entailed crop collection and its subsequent redistribution which included: providing for the needs of the palace and its dependants; provisioning for priests, scribes, and workmen engaged in temple and other state projects; providing provisions and gifts in festivals; and supplying sufficient sustenance for the population. This chapter seeks to show how accounting inscriptions ordered these redistributive activities. While tracing the activities involving grain will form an essential part of the analysis, other activities entailing provision of different goods such as other foodstuffs (e.g., meat, oil) and clothing will also be considered.

A variety of accounting technologies were employed by the scribes to underpin and make possible the functioning of ancient Egypt's redistributive economy. Accounting was at the centre of all the stages that involved bringing commodities to the centre (see Chapters 6 and 7) as well as redistributing these commodities for consumption. The scribes used accounting calculations to identify centres of responsibility for taxable income, estimate taxable capacity, levy tax liability, and ensure the collection of levied taxes and their careful storage until they were redistributed as rations or wages (see Chapter 6). A system that both enumerated the precise types of goods and assessed their value either through quantification via capacity measures or via the use of a money of account as a common denominator was called upon to endow the measurements with an aura of precession. Even when dealing with the mortuary cults of the dead, accounting technology was mobilized to produce equivalence and order the relationship between the living and the dead. Far from being an inferior, simplistic precursor to modern accounting, this ancient form of accounting should be judged on its own terms and understood within the unique social, political, and economic contexts in which it functioned.

ACCOUNTING AND REDISTRIBUTION: INFLOW OF COMMODITIES

Because ancient Egypt had a grain-economy, concern with monitoring the inflow of grain and other storable goods was paramount. The redistribution of commodities comprised several steps: (i) measurement of commodities at source; (ii) collection and delivery of commodities to central granaries; (iii) stock control in stores; (iv) conversion of inputs (e.g., grain) into output (e.g., bread); and (v) redistribution according to predetermined rations. Steps (i) to (iv) are concerned with the inflow and processing of commodities, whereas step (v) relates to the outflow of commodities from the granaries or the state workhouse to various sectors of society. Unfortunately, much of the administrative records have not survived; hence the focus of the following discussion is upon items for which there is sufficient evidence. Each of the five steps listed here was underpinned by accounting and monitoring technologies inscribed in writing, mostly on ostraca (sherds of pottery) sometimes on papyri, and occasionally celebrated ceremonially by being engraved onto the walls of tombs and temples. The accounting inscriptions examined in this chapter provide strong evidence of the extent to, and the manner by, which accounting ordered the redistributive economy of ancient Egypt. This section focuses upon the inflow of commodities leaving the discussion of the outflow of commodities to the next section.

Control of the flow of crops in ancient Egypt was rooted in the good management of the land. In Middle Kingdom (2040–1640 BCE) Egypt, to which the inscriptions analyzed here belong, officials were charged with the responsibility of controlling and maintaining the river-banks and the canals, and of overseeing the orderly division of land among peasants (James, 1985). These responsibilities were formalized and articulated further in the New Kingdom (1550–1070 BCE) in the ‘Duties of the vizier’ (van den Boorn, 1988). As the chief minister, the vizier was responsible for maintaining tight control over the land by dispatching mayors, district governors, and scribes to arrange for the cultivation of the land during the summer, fix district and estate boundaries, and examine water supplies on the first day of every (ten-day) week. The vizier was also ultimately responsible for exacting the dues of the temples (Smither, 1941). Officials were appointed to monitor work on the land throughout the season, and, just as was the case in the Old Kingdom (Kanawati, 1980; Strudwick, 1985), the vizier kept himself informed through regular reports that covered the state of affairs under his control. The scribes played a prominent role in helping the vizier maintain control over the land.

Chapter 6 examined evidence, drawn from the Middle and New Kingdoms, relating to the estimation, assessment and collection of tax. Chapter 7 examined the ways in which tax revenue was transported from source to state stores and the accounting and administrative inscriptions relating to their orderly monitoring and control. This chapter focuses upon the delivery of tax that has already been collected and transported to state stores and their stock control, and later on explores their conversion into other commodities and their redistribution as provisions.

Delivery to Stores and Stock Control

As shown in Chapter 6, tax levied was collected in kind and delivered to the appropriate state organ. For example, in the case of grain the crop was transported from the threshing floor to the granaries by boat. Accounting control reached far into the innermost parts of the ancient Egyptian establishments. Scribal activities were anticipated in the architectural design of granaries, those impressive and administratively crucial structures that functioned as the main arteries of the Egyptian redistributive system. Moreover, considerable accounting expertise was mobilized to: (i) estimate the rations required for a population of varying social order (which will be discussed in more detail); and (ii) monitor the delivery of grain to, and the distribution of grain from, these granaries. Based on model granaries found in tombs, such as the Meketra models (Kemp, 1986, 1989) and Middle Kingdom granaries, it appears that each granary had at least eight chambers located in the inner and outer parts of the building. The inner part was used to store grain and the outer part was reserved for the scribes who recorded grain delivered and issued, and who maintained regular stock control.

The Meketra granary models also emphasize the size of the granary personnel, if not necessarily how their duties were discharged, by showing for each granary model a force of ten staff: a doorkeeper, four seated scribes with their document boxes, an overseer and his assistant, and three labourers for measuring grain, using the *hekat* measure, prior to filling sacks. Evidence from the Uronarti granary (and also from the Mirgissa granary) testify to the extensive use of accounting and administrative monitoring, as over 2100 impressions of “seals of the granary of the fortress of Khesef-iuntiu” and “seals of the treasury of the fortress of Khesef-iuntiu” were found in that granary. These seals were used as a method of enclosing the grain sacks and also for sealing the granary doors (Kemp, 1986: 125). By monitoring the distribution of rations through these granaries, the central administration could exercize direct control over a significant part of the population. Stock control in the granaries was thus planned in a manner that followed the physical inflow, storage and ultimate redistribution of grain.

The preceding discussion could be taken to suggest that the system of accounting for taxation in the Middle Kingdom functioned smoothly and effectively. While in a general way this may have been the case, it would be surprising if some disruption to order, in the form of system failure, did not occur, at least occasionally. In a centralized tax system, one may expect that tax subjects would have incentives to engage in actions that would reduce their tax burden, if not evade it altogether. Further, tax officials may collude to appropriate some of the tax collected for their own advantage. The material analyzed in this chapter thus far does not allow any conclusions to be drawn about such possible system failures. However, evidence from other eras in ancient Egyptian history points to precisely these possibilities. For example, Chapter 6 discussed cases of defalcations of temple revenues during the New Kingdom that went on for nine years, which involved the collusion of senior priests and scribes. Further, the same Chapter examined inscriptions relating to complaints against scribes levying higher tax burdens on subjects, and subjects using grain measures of differing capacities to minimize the amount of taxable crop.

Conversion of Inputs into Outputs

In order to monitor the conversion of inputs into outputs, the scribes developed fairly elaborate input-output matrices which involved two types of accounting metrics relating to (i) physical equivalence, and (ii) lack of quality. The first kind of metric established unit equivalence between different types of goods and outputs, as, for example, between barley and emmer, both typically measured in capacity terms via the *khar* family of metrics. For example, in ancient Egypt barley was considered more valuable than emmer, and this was reflected in a standard exchange of 3 units of emmer equalling 2 units of barley, or an exchange ratio between barley and emmer of 2/3. Using this exchange ratio, any number of *khar* of emmer can be converted into an equivalent number of *khar* of barley and vice versa. Using these, and similar, equivalent units as common denominators, it was possible to establish value equivalence across different objects, for example, the ratios expressing the relative values of gold, silver, and copper.

Considering the second kind of metric, the best known example of lack of quality is the *psw* (pesew, dilution) which reflected the number of loaves of bread or jugs of beer expected to be made from a given quantity of grain after allowing for 'natural loss' in baking/brewing (see Chapters 5 and 12), which made possible the aggregation of products of differing levels of quality. Thus, a *psw* of 1/8 means that in, say baking bread, it is expected that

1/8 of the total weight of flour will be a natural loss in baking, so 80 *khar* of flour should when produced as bread loaves reach the net weight of 70 *khar*. This percentage of permitted, or natural, loss in brewing beer or baking bread was not fixed across all types of bread or beer but was made to vary to reflect the specific baking or brewing characteristics of the type of flour or grain used and the objects baked.

ACCOUNTING FOR THE OUTFLOW OF COMMODITIES

Redistribution involves first, the accumulation of commodities centrally and second, their subsequent redistribution to various sectors of society. The redistributive system developed in ancient Egypt was somewhat different from this, in the sense that only part of the harvest (in the form of tax or rent) was collected by the central administration as discussed in Chapter 6. Further, when the harvest was adversely affected by exogenous factors, such as Nile flooding or drought, adjustments were typically made by the central administration through tax reduction/exemption and/or distribution of commodities from the state granaries. The pattern of the outflow of commodities from central administration to state subjects was complex, and, as demonstrated here, accounting played a major role in underpinning these activities. Redistributive activities of the kind described here were based on carefully determined rations and ratios that were deemed appropriate for state employees and for direct redistribution to the Palace dependants (such as members of the Royal family, their immediate staff, etc.).

The Summary Accounts

One of the most remarkable documents to survive from the late Middle Kingdom is Papyrus Bulaq 18 (Spalinger, 1985a, 1986; Quirke, 1990) which relates to the early part of Dynasty Thirteen (1783–1640 BCE). The Papyrus contains daily summary accounts of a Royal visit to Thebes upon the occasion of initiating or completing monuments in connection with the cult of Montu at Medamud (see Quirke, 1990: 22). The Pharaoh was accompanied by his family and immediate dependants, the vizier, high officials and courtiers of various standing who belonged to the four main administrative functions of the Middle Kingdom: the Vizierate, the Treasury, the Priesthood, and the Military. This hierarchy of the social rankings of these officials was reflected in the rations delivered.

Before these daily summary accounts are examined in detail, it is instructive to explore the physical flow of commodities recorded in them. The commodities collected and stored by the administrators of the central granaries and stores followed another cycle of inflows and outflows of resources in this latter stage of redistribution (see Figure 8.1). The inflow and outflow of resources took one of two distinct forms (Spalinger, 1986).

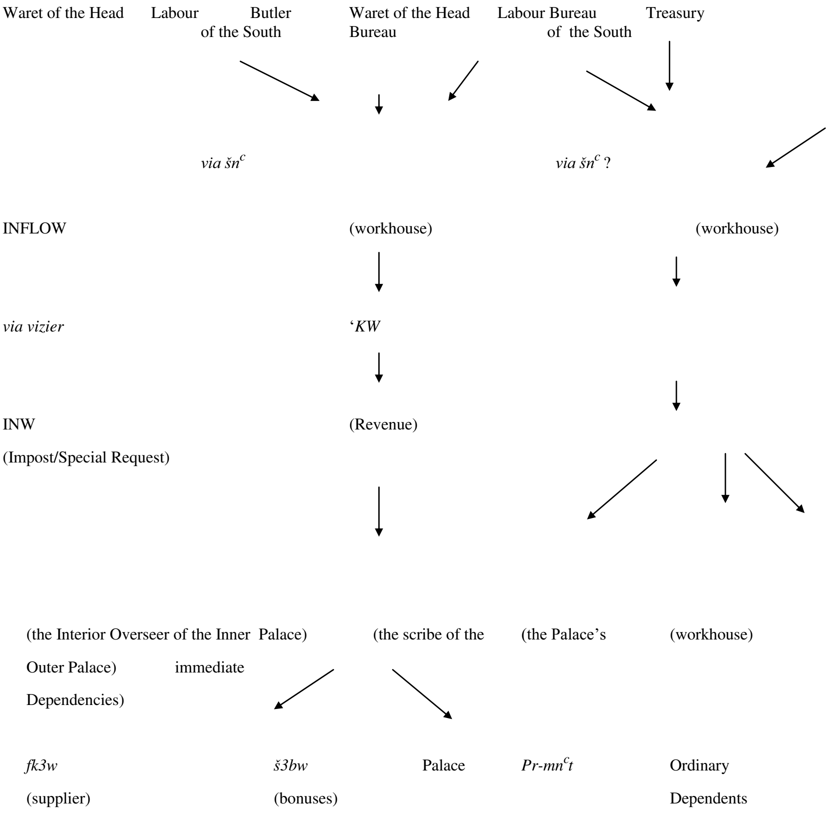

Figure 8.1 The redistributive pattern of Papyrus Bulaq 18.
Reproduced with permission of *Studien Zur Altagyptischen Kulture.*
*Adapted from A. Spallinger, "Foods in P. Bulaq 18", *Studien Zur Altagyptischen Kulture*, Vol. 13, 1986: 246

First, an inflow of impost from the Waret of the Head of the South, the Labour Bureau (Waret signified a large geographical area), and the Butler, which was channelled through the Workhouse of the vizier. This was subsequently distributed (outflow) through the Interior Overseer of the Inner Palace, either as supplies or bonuses. Second, an inflow of revenue from the Waret of the Head of the South, the Labour Bureau, and the Treasury, was channelled through to the Workhouse. This was then distributed via the Scribe of the Outer Palace, and via the Workhouse to the Palace's immediate dependants and ordinary dependants.

This intricate web of administrative arrangements ordered the space of the palace by partitioning its domain into the Inner Palace (where the Pharaoh and his family and immediate dependants resided) and the Outer Palace (from where the officials, including the vizier, operated). This partitioning continued to be mobilized in the various economic activities involving the Palace. Orders from the Palace for supplies were issued from the Inner Palace through either the Interior Overseer of the Inner Palace or the Scribe of the Outer Palace to the Scribe of the Accounts operating from the Outer Palace. This method of co-ordinating and monitoring requisitions and provision of supplies therefore embodied the spatial zoning and schematic division of the Palace into functionally separate quarters, i.e., the Royal residence in the Inner Palace and the administrative machinery in the Outer Palace (Quirke, 1990).

In total, Papyrus Bulaq 18 covers a period of thirteen days stretching from day 25 of Inundation, (Akhet/Autumn) season, month 2 to day 4 of the Inundation month 3, in addition to days 16–18 of the latter month, in year 3 of Sobekhotep II (around 1750 BCE). The entries in the summary accounts are chronologically recorded and classified under four headings (see also Quirke, 1990: 23):

(i) *Statements of account:* These cover provisions, special deliveries, remainder, balance, and surplus.
(ii) *Orders of provision:* These detail amounts of provision earmarked for specific individuals along with their name list.
(iii) *Expenditure of valuable commodities:* This contains a list of offerings.
(iv) *Official reports and documents:* These include circulars specifying items received in the presence of witnesses.

The daily summary accounts are very similar, hence the following discussion concentrates on only two daily accounts, taken from Spalinger's (1985a) translation, which capture the most important features of the whole document.

Each account in Papyrus Bulaq 18 was inscribed using a tabular format made of two consecutive parts; revenues (credits) and disbursements (debits).[2] The revenues part shows the balance from the previous day, total revenues due to the Pharaoh and revenues from the Temple of Amun. The disbursements part records goods delivered in the main to the Palace, the Palace's immediate dependants, and ordinary clients (people), in addition to a variety of others such as Musicians, Personnel in the Carpenter's Workshop, the Scribe of the Harim, and other officials. The numbers of people involved varied from day to day, presumably because some of them had to be away on duty when needed (Quirke, 1990). At the end of each day the Scribe of the Accounts calculated the total of each of the revenues part and the deliveries part, and the remainder (balance) for each type of commodity for that day.

Table 8.1 shows the account of day 29, month 2. The revenues part of the account documents for each of six types of commodity amounts delivered for the Pharaoh and the daily dues from the Temple of Amun. The remainder (balance) carried forward from the previous day is recorded as

Table 8.1 Daily Summary Account*

DAY 29 – S 28

	Variegated bread	Beer	*hrt*	Dates	Dates	Vegetables
ACCOUNT REVENUE	^{c}*kw*	*des*		*hpt*	*hnw*	Bundles
Total revenue	1680	135	2	1	52	200
Remainder day 28	200	---	-	-	--	---
Temple of Amun	100	10	-	-	--	---
TOTAL	1980	145	2	1	52	200
DEBIT						
Palace	625	45	2	1	52	200
Workhouse amount to *pr mn*^{c}*t*	630	61	-	-	--	0
Workhouse amount to ordinary clients	525	38	-	-	--	0
TOTAL	1780	144	2	1	--	200
REMAINDER	200	1	0	0	0	200

*Source: A Spalinger, "Notes on the Day Summary Accounts of P. Bulaq 18 and the Interdepartmental Transfers, *Studien Zur Altagyptischen Kultur*, vol. 12, 1985:185.

that "[w]hich was brought to him [the Pharaoh] as the remainder of that day" (Spalinger, 1986: 210). The other part of the accounts records the distribution of each of these six commodities to the Palace, the Palace's dependants, and the ordinary clients. Each daily account is therefore akin to a master ledger summarizing detailed accounts for each of the individual commodities.

Some Preliminary Observations

The following three observations emerge from examination of these summary accounts. First, the aggregate daily requirements of each of the three main consumption centres; the Palace, the Palace's dependants, and ordinary clients almost exactly match the revenues accruing to the Pharaoh plus the dues from the Temple of Amun, as in the case of variegated bread (1780 loaves; Table 8.1). These figures appear to be standard provisions throughout all the daily accounts, except in the case of days 25 and 26 where provisions for the Palace were smaller by 50 loaves. Similar arguments apply to beer, edible dates, and vegetables, where standard provisions were maintained daily. The consumption patterns underlying these standard provisions reflected not only the number of individuals in each category, but also the social status of the individual (see the following).

Second, in the case of variegated bread the scribe kept a recurring daily balance of 200 loaves (with minor variations in only two days). This could have represented a safety-net balance earmarked for emergencies that may result in unavoidable shortages in revenues or unexpected increase in demand. This does not appear to be the pattern in the case of other commodities; even though the vegetable bundles column shows a remainder of 200 bundles, the remainder in all other daily accounts for vegetables as well as for other commodities was approximately zero. For these commodities then the redistributive system operated on the basis of a near perfect matching of demand with supply thereby resulting in zero balances, presumably because they were not critical for human subsistence. In contrast, the commodities which exhibited a running balance may have been critical for the survival of those who depended on the redistribution; clearly bread would have been regarded as more essential than dates and vegetables. Further, compared to meat and vegetables, bread could keep better and for longer periods.

Third, like all other daily accounts in Papyrus Bulaq 18, the account shown in Table 8.1 contains entries relating to goods received and distributions made over a particular time interval; namely one day. Although it is possible that some of the provisions given to the Palace officials and other functionaries could be classified as wages, most of the entries in each account reflect redistribution of foodstuffs that were collected and administered centrally. In this relatively straightforward case of redistribution, the accounting techniques used to record and monitor the transactions were similarly simple but effective. By having a separate column for each type of commodity, by recording daily receipts and distributions, and by comparing these two items for each column it would have been easy for the scribes to know the daily remainders of each commodity. Moreover, combining the power of inscription with technical accounting expertise made it possible for the scribe to trace the inflow and outflow of commodities, thereby minimizing the potential for embezzlement and emphasizing the accountability and responsibility of all those involved in the activities inscribed in the entries, including the scribes who recorded these entries. Inscribed accounting entries were therefore a means by which the scribes could show their competence in discharging their responsibilities, and senior officials could demonstrate to the vizier and the Pharaoh their worth in monitoring the affairs of the Palace.

The accounts contained in Papyrus Bulaq 18 connect strongly to the themes of myth, performativity, and order. The fact that the accounts were inscribed on a daily basis not only anchored these inscriptions both temporally and spatially. The regularity and frequency of these inscriptions also created a myth that everything to do with the affairs and needs of Palace and its dependants has been carefully assessed, sourced, and made available in a manner that left nothing to chance. This myth created a sense of certainty and reliability; for in the knowledge of having this meticulous accounting the Pharaoh and his royal entourage could feel rest assured that they could concentrate on their royal duties without worrying about the appropriateness of their provisions. The manner in which the daily accounts were designed, with their organization in a tabular format, clarity in simplicity, orderliness of their entries, and visibility of inscriptions concerning every item recorded also endowed the accounts with the myth of accuracy and careful planning. This accounting order would have imposed a wider sense of order on all those whose needs and affairs were co-ordinated by these accounts. And this form of order was performative, for all those who were concerned with the provisions, be it those who undertook the planning, inscribed the entries, or consumed the provisions, would have been left in little doubt that the inscriptions brought about and rendered real the objects and subjects that they inscribed.

More Complex Patterns of Redistribution

Examination of the more complex cases of redistributive patterns in the daily summary accounts yields further evidence of the centrality and potency of accounting technologies in ordering and regulating these patterns. The account of day 1, third month of the Inundation (Akhet/Autumn) season is a good example (Table 8.2). In addition to the 'standard' entries in Table 8.1, the account of day 1 in Table 8.2 reveals a more intricate pattern of redistribution. This can be traced down to varying levels of distribution; while the total of the debit side for variegated bread, dates (*bnw*) and vegetable bundles is the same as in most of the other daily accounts, there are two main differences:

(i) An additional consumption of bread-*inw* of 600 loaves (310 + 290), and
(ii) An increase in the consumption of beer of 72 *des* jugs (15 + 35 + 22).

In order to deal with these non-standard requests, presumably caused by the special needs of the Palace (e.g., the additional 15 *des* jugs of beer), or by the need to make additional provisions for officials, the scribe introduced:

(i) A second new column for bread-*inw* (which Spalinger, 1986: 209 translates as 'impost' in preference to 'tax' or 'tribute'); and, more significantly,

Table 8.2 Daily Summary Account*

DAY 1 -- S 41

ACCOUNT REVENUE	Variegated bread ^{c}*kw*	Bread-*inw*	Beer *des*	*hrt*	Dates *hpt*	Dates *hnw*	Vegetables sacks	Vegetables Bundles
Total revenue	1680	---	135	2	1	52	-	200
Remainder day 30	200	---	2	-	-	--	-	---
Temple of Amun	100	---	10	-	-	--	-	---
Due today	----	938	90	7	-	--	7	---
TOTAL	1980	938	237	9	1	52	7	200
DEBIT								
Palace	625	---	45 15	2	1	52	-	100
Workhouse amount to *pr mn*^{c}*t*	630	---	61	-	-	--	-	50
Workhouse amount to ordinary clients	525	---	38	-	-	--	-	50
Delivered as *š3bw-* food to officials and people of *pr mn*^{c}*t*	---	310	35	5	-	--	7	---
Delivered as *fk3w* to officials and citizens	---	290	22	-	-	--	-	---
TOTAL	1780	600	216	7	1	52	7	200
REMAINDER	200	338	21	2	0	0	0	0

*Source: A Spalinger, "Notes on the Day Summary Accounts of P. Bulaq 18 and the Interdepartmental Transfers, *Studien Zur Altagyptischen Kultur*, Vol. 12, 1985:187.

(ii) A new entry called 'due today' (or more precisely, "that which is brought to him as levied-due on this day"; see Spalinger, 1986) which is used to record the additional revenues, or receipts, raised in order to meet the increase in demand. This 'due today' entry only appears in those daily accounts where the redistributive pattern is non-standard. It is a temporary device employed by the scribe to deal with an unusual situation. These additional revenues are not necessarily only matched to the increased demand of that particular day; typically they allowed for increased demand for subsequent days, hence the balances carried forward for bread-*inw* and beer.

It is noteworthy that the 'due today' entry was reserved for those special demands that were *significant* in magnitude. Relatively small discrepancies between inflows and outflows of foodstuffs were accommodated by making minor adjustments in the redistribution patterns, so that, with the exception of the Palace, the allocations to the groups entered on the debit side were reduced accordingly. For example, in the account of day 28, second month of inundation (not shown here), a special need arose for an additional 40 loaves of bread and five jugs of beer. Instead of dealing with these small extra needs through the 'due today' entry, the bread provisions for the Palace dependants were reduced by 30 loaves, and the ordinary clients suffered a reduction of 10 loaves of bread and five jugs of beer. The 'due today' entry was also activated whenever one of the main sources of revenue failed to deliver its expected contribution. This was the case in the account of day 26, second month of Inundation (not shown here), when 10 additional jugs of beer were raised through the 'due today' entry to make up for the failure of the Temple of Amun to deliver its share.

To summarize: (i) the scribe of the accounts used the simpler account format (Table 8.1) as long as inflows and outflows were of the standard amounts (i.e., about the same as expected); (ii) whenever the difference between inflows and outflows was significant the 'due today' entry was used to balance them; and (iii) remainders (balances carried forward) of commodities, with the exception of variegated bread, were kept to a minimum (normally zero); presumably to reduce the burden of storage and keep the food supply fresh. Whenever the supplies were noticeably greater than the standard needs, with little evidence of imminent increase in demand, balances were run down by making larger allocations than the standard amounts to the Palace. In this sense, the Palace and its dependants operated as a clearing house, always keeping demand tuned to supply. Notice, however, the asymmetry reflected in the Palace being the recipient of surplus, but never having to make up for deficits which were borne out by other groups. This social ordering of subjects and/or institutions was made manifest by means of the accounting inscriptions that accorded first priority to the Palace and constructed a hierarchy in which ordinary people occupied lower rungs on the social ladder.

Apart from offering a means of co-ordinating and monitoring the redistributive patterns, the daily summary accounts may have played other critical roles of a wider social influence. Thus, the detailed documentation supporting the accounts shows clearly the sources of supply of each commodity, which come under the entry 'total revenue' (or better, total receipts), and the expected and actual contributions from each source. Bread, beer, and vegetables were typically divided between (i) the Waret of the Head of the South ; (ii) the Labour Bureau; and (iii) the Treasury (vegetables and variegated bread, but not bread-*inw*). In contrast, dates and other commodities were provided, almost exclusively, by the Waret of the Head of the South (Spalinger, 1985a: 213). Further, the calculations on the debit side of the daily summary accounts reveal yet another intricate pattern of supply: (a) in the case of vegetables the Palace received its supplies from the Waret of the Head of the South, whereas the Labour Bureau and the Treasury supplied the Palace dependants and the ordinary clients; and (b) no division of labour was apparent, however, in the case of beer and bread. The inscriptions also suggest that the State Workhouse, which operated apparently as a lending bank storing food items, held separate accounts for each of the three state Departments: the Waret of the Head of the South, the Treasury, and the Labour Bureau (Spalinger, 1985a: 208). Although the State Workhouse in general was a productive centre in its own right, in the case of Papyrus Bulaq 18 it appears that it operated mainly as a transfer point, as an entrance to the Palace, and a conduit for the flow of commodities from the Waret of the Head of the South, the Labour Bureau, and the Treasury to the Palace.

To a significant extent then the daily summary accounts, enshrined in accounting calculus, performed several roles related to order. First, they established, reaffirmed, or reproduced a particular order of priority, so that on the debit side, for example, the Palace entry came first, followed by the Palace dependants, and then by ordinary clients. This order was strictly adhered to throughout the accounts. Through the careful prioritization of claims in this manner, accounting inscriptions constructed, reproduced and legitimized the social order of the various groups within the hierarchy of the Middle Kingdom society. Second, the accounts reaffirmed the social strata and the very fabric of the Egyptian society by linking sources of revenues (receipts) and provisions to specific institutions and class categories which reflected a large measure of dependency on the State and its administrative apparatuses. This dependency can be taken to be the earthly manifestation of the essence of *Maat*, not only in terms of securing social justice, but also in maintaining overall order and equilibrium. Third, the day summary accounts reinforced such dependency relationships through the determination of precise rations of provisions in a manner that emphasized the social and political status of the recipients. Fourth, and finally, the day by day repetitive nature of the inscriptions produced ordered expectation of deliveries and provisions in cyclical, recurring time thereby creating an image of permanence through repetition. As such, these inscriptions connected directly to the two conceptions of sacred time discussed in Chapter 4: *djet* and *neheh*. As *djet*, the summary accounts of Bulaq 18 established a notion of permanence, of perfectivity, and of lasting Everness and endurance of supplies for the Palace and its dependants. As *neheh*, the accounts emphasized the flow of provisions along with the flow of time, and underscored recurrence and renewed continuity.

SOME REDISTRIBUTIVE PATTERNS INVOLVING THE TEMPLE

This section examines inscriptions relating to distribution patterns of economic transactions involving temple personnel. As in the preceding section, the emerging redistributive patterns were fairly complex, but were co-ordinated by means of different accounting inscriptions, a testimony to the creative skills of the scribes. The transactions come from tomb No. 1 in Assiut, and belong to Hepzefi who was the nomarch of Assiut during the early part of the reign of Dynasty XII (1991 BCE onwards). These inscriptions were agreed upon plans or commitments rather than being claims of what had actually taken place in practice. In this sense, they are rather different from previous inscriptions examined so far in this book, because of their future-oriented nature.

The Transactions

The transactions are contained in ten contracts made by Hepzefi [Breasted, 1906/1988, Vol. I: 258–271; Spalinger, 1985b]. Contracts I–VI were written when Hepzefi was the High Priest of the Wepwawet Temple, and VII–X when he was High Priest of the Anupis Temple. These contracts also reveal differences in the case of office-held property (for example, grain) as compared with personal property (in this case land and temple days, see the following). As nomarch, Hepzefi inherited land, services (such as temple offerings), and duties distinct from those which he acquired as High Priest. Also, as High Priest of the Wepwawet temple, he performed specific duties for which he received payment in kind, but he was not allowed any revenues from the temple estates, and his most significant roles in the ten contracts were those of nomarch and citizen (Spalinger, 1985b). Further, as a private person, Hepzefi inherited from his parents assets such as land and cattle. Some of the transactions, e.g., resources, accrued to Hepzefi while he was alive by virtue of being High Priest, nomarch, and private citizen, while other inscriptions concern the duties to be performed by the *ka* priest in the name of Hepzefi after his death. However, all ten contracts came into force only after the death of Hepzefi. The transactions deal with the role of the *ka* priest in serving the mortuary cult of Hepzefi. In exchange for the tomb services and duties performed by the *ka* priest, and his successor, the tomb owner Hepzefi paid in return land, cattle, etc. Only four contracts (III, IV, VIII, and IX) that relate to the Temple of Anubis are examined, as these capture the main redistributive patterns of the complete set of contracts.

Contracts III and IV are economically connected; they both deal with the 18th day of the first month (the day of the *Wag* festival). According to Contract III the ten members of the official body of the Wepwawet temple give the following goods to Hepzefi's statue (i.e., to his *ka* priest), with the chief priest contributing twice as much as each of the remaining staff as shown in Table 8.3 (Breasted, 1906/1988: 262–263):

Table 8.3 Hepzefi's Contracts*

III. Third Contract

Title

549 Contract which the count, the superior prophet, Hepzefi, triumphant, made, with the official body of the temple, to-wit:

What Hepzefi Receives

550. There shall be given to him bread and beer in the first month of the first season, on the eighteenth day, the day of the Wag-feast. List of that which shall be given:

Register of Names	(Khy-) Jars of Beer	Flat Loaves	White Loaves
Superior prophet	4	400	10
Announcer	2	200	5
Master of secret things	2	200	5
Keeper of the wardrobe	2	200	5
Overseer of the storehouse	2	200	5
Keeper of the wide hall	2	200	5
Overseer of the house of the Ka	2	200	5
Scribe of the temple	2	200	5
Scribe of the altar	2	200	5
Ritual priest	2	200	5

What He Pays

551. He hath given to them for it, 22 temple-days, from his property of his paternal estate, but not from the property of the count's estate: 4 days to the superior prophet, and 2 days to each one among them.

Definition of "Temple-Day"

Continued

Table 8.3 Continued

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552. Lo, he hath said to them: "Behold, as for a temple-day, it is 1/360 of a year. When ye therefore divide everything that comes into this temple, consisting of bread, of beer and of meat for each day, that which makes 1/360 of the bread, and of everything, which comes into this temple, is the unit in these temple-days which I have given to you. Behold, it is my property of my paternal estate, but it is not the property of the count's estate; for I am a priest's ($w^{c}b$) son like each one of you. Behold, these days shall belong to every future official staff of the temple, since they deliver to me this bread and beer, which they give to me".

Conclusion

553. Lo, they were satisfied with it.

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*Source: J.H. Breasted, *Ancient Records of Egypt, Part One*, London: Histories and Mysteries of Man Ltd. 1906/1988: 262-263.

This revenue was given to Hepzefi's statue in return for him giving the priests revenues (bread, beer, and meat) in the form of 22 days of service in the Wepwawet Temple which he acquired as a private inheritance from his father, each day being specified as 1/360 of a year. This allocation of the 22 day revenues to the chief priest (superior prophet) and his staff was in exactly the same proportions as their individual contributions; twice as much for the chief priest (4 days) as the proportion given to each member of the remaining nine staff (2 days each). This metric according to which the chief priest was due to receive twice as much payment as each of the remaining staff was a means of signalling his importance and worthiness, a way to emphasize his standing in the overall order of staff concerned. A non-monetary price equivalence can be placed on each of the 22 temple-days that Hepzefi inherited: 1 jar of beer + 100 flat loaves of bread + 2 ½ white loaves of bread.

Contract IV (Breasted, 1906/1988: 263–265) shown in Table 8.4 specifies that the temple priests each deposit one loaf of white bread for Hepzefi's statue on the day of the *Wag* festival, and perform additional services for his cult. The contract also states that Hepzefi gives the temple priests a sack of fuel (one *khar*) for a bull or an *uhet* of fuel for a goat, which the temple priests usually give to the Workhouse of the nomarch, for which he receives payment from them. This effectively simplifies the transaction to one in which the temple priests provide white bread and service to Hepzefi's statue for which the latter appears to pay nothing in return. The remainder of the contract states that the temple staff are to hand over to the temple priests the total amount of beer and the flat bread that they were to give to Hepzefi's statue on the day of the *Wag* festival. This transaction excludes the

Table 8.4 Hepzefi’s Contracts

IV. FOURTH CONTRACT

Title

554. Contract which the count, the superior prophet, Hepzefi, triumphant, made with the lay priests of Upwawet, lord of Siut, to wit:

What Hepzefi Receives

555. There shall be given to him:

(a) A white loaf per each individual among them, for this statue, which is in the temple, in the first month of the first season, on the eighteenth day, the day of the Wag feast.
(b) And they shall go forth, following his mortuary priest, at his glorification, when the fire is kindled for him, as they do when they glorify their own noble ones, on the day of kindling the fire in the temple. Now, this white bread shall be under the charge of my mortuary priest.

What He Pays

556. He hath given to them for it:

(a) A khar ($h^{c}r$) of fuel for every bull, and an uhet (*wh’t*) of fuel for every goat, which they give into the storehouse of the count, when each bull and each goat is offered to the temple, as ancient (dues) which they give into the storehouse of the count. Lo, he hath remitted it to them, not collecting it from them.
(b) And hath given 22 jars (*kby*) of beer and 2,200 flat loaves which the official body of the temple give to him in the first month of the first season, on the eighteeth day, as compensation, for their giving white bread per each individual among them, from that which is due to them from the temple, and (as compensation for) his glorification.

Futher Specification

557. Lo, he spake to them, saying: “If this fuel be reckoned against your by a future count; behold, this bread and beer shall not be diminished, which the official body of the temple deliver to me, which I have given to you. Behold, I have secured it by contract from them.”

Continued

Table 8.4 Continued

Conclusion

558. Lo, they were satisfied with it.

*Source: J.H. Breasted, *Ancient Records of Eqypt, Part One*, London: Histories and Mysteries of Man Ltd. 1906/1988: 263-265.

55 loaves of white bread (Contract III) which presumably were used at the discretion of the *ka* priest. Taken together, the contents of the two contracts can be summarized as follows: Hepzefi gives an inheritance of 22 days' revenues in the temple to the temple staff in return of which they owe him a specified quantity of beer and bread which they give to the temple priests, with the transaction being monitored by Hepzefi's mortuary *ka* priest.

Contract VIII (Breasted, 1906/1988: 267–269) shown in Table 8.5 focuses on Hepzefi's nomarchal role; it states that on the night of the Wag festival, the seventeenth day, first month of the first season of the year, each of the temple

Table 8.5 Hepzefi's Contracts*

VIII. Eighth Contract

Title

576. Contract which the count, the superior prophet, Hepzefi, triumphant, made, with the lay priests of the temple of Anubis; to-wit:

What Hepzefi Receives

577. There shall be given to him:

(a) A white loaf per each individual among them, for his statue, in the first month of the first season, on the seventeenth day, the night of the Wag-feast.

(b) And that they shall go forth, following his mortuary priest, and kindle for him (the count), the fire at his glorification, until they reach lower steps of his tomb, just as they glorify their noble ones, on the day of kindling the fire.

(c) And that the priest belonging in each month shall give [-] of bread (*p'k*) and a jar of beer for his statue, which is on the lower steps of his tomb, when he comes forth from offering in the temple every day.

Continued

Table 8.5 Continued

What He Pays

578. He hath given to them for it; grain from the first of the harvest of every field of thecount's estate, as every citizen of Siut does from the first of his harvest. Now, behold, he begins with having his every peasant give it from the first of his field into the temple of Anubis.

Injunction to Future Nomarchs

579. Lo, the count, Hepzefi, said "Behold, ye know, that, as for every official (*sr*) and every citizen, who gives the first of his harvest into the temple, it is not agreeable to him, that there should be lack therein. Therefore shall no future count diminish to future priests that which is secured by contract of another count."

Individual Payment and Remuneration

580. This grain shall belong to the lay priests, per each individual priest, who shall give to me this white bread. He shall not divide it to his colleagues, because they give this white bread, each by himself.

Conclusion

581. Lo, they were satisfied therewith.

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*Source: J.H Breasted, *Ancient Records of Egypt, Part One*, London: Histories and Mysteries of Man Ltd. 1906/1988: 267-269.

priests must provide one loaf of white bread and service duties to Hepzefi's statue, a number of loaves of another type of bread, a jar of beer, as well as perform certain religious duties for him. Such were the duties specified in the contract. But then, what do the priests who have to perform these duties get in return? The contract again is quite clear: they are expected to get "grain from the first of the harvest of every field of the count's estate", thus it is not any grain but quite specifically a particular type of grain designated by time of harvest and location of field.[3] The contract also warns clearly against any possible shortage in the provisions (or payments) that must be made to these priests. Given that the nomarchal estate belonged to the office of the nomarch, this is a cost free transaction for Hepzefi because it is the living nomarch who pays the temple. Effectively, this amounts to a tax which Hepzefi levied during his tenure as Priest of the Anubis Temple, a practice which he urges his successor to adhere to in the future.

Table 8.6 Hepzefi’s Contracts*

IX. NINTH CONTRACT

Title

582. Contract which the count, the superior prophet, Hepzefi triumphant, made, with the overseer of the necropolis, and with the mountaineers, to-wit:

What Hepzefi Receives

583. There shall be given:

(a) That they go to the house of Anubis, on the fifth of the 5 intercalary days, (being) New Year’s night, and on New Year’s Day, to receive 2 [wicks], which the great priest ($w^{c}b$) of Anubis gives to the count, Hepzefi.
(b) And that they go, at his glorification, until they reach his tomb.
(c) And that they give this one [wick] to his mortuary priest, after they glorify him, just as they glorify their noble ones.

What He Pays

584. He hath given to them for it

(a) 2,200 (*h’t-*) measures of land in the [-] from his property of the paternal estate, but not of the count’s estate:

Register of Names	(*H’t*-) Measures
Overseer of the Necroplis	400
Chief of the Highland	200
Eight mountaineers	1,600

(b) Besides giving to them the foot of the leg of every bull, that shall be slaughtered upon this highland, in every temple.

What Hepzefi Further Receives

585. They have given to him;

The Overseer of the Necropolis, 2 (*ds*-) jars of beer; 100 flat loaves; 10 white loaves.

The Chief of the Highland, 1(*ds*-) jar of beer; 50 flat loaves; 5 white loaves.

Eight mountaineers, 8 (*ds*-) jars of beer; 400 flat loaves; 40 white loaves.

For his statue, (which is) in charge of his mortuary priest, in the first month of the first season, on the first day, (being) New Year’s Day, when they glorify him.

Continued

Table 8.6 Continued

Future Validity of Contract

586. Lo, he said to them: "Behold, these (*h'-t*) measures of land, which I have given to [you] shall belong to every overseer of the necropolis, to every chief of the highland, and to every mountaineer who shall come (hereafter), because they shall deliver to me this bread and beer."

Additional Stiplulation

587. And ye shall be behind [my] statue which is in my garden, following it when __________, at every feast of the beginning of a season, which is celebrated in this temple."

Conclusion

588. Lo, they were satisfied therewith.

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*Source: J.H Breasted, *Ancient Records of Egypt, Part One*, London: Histories and Mysteries of Man Ltd. 1906/1988: 269-270.

In contrast to this contract, Contract IX in Table 8.6 (Breasted, 1906/1988: 269–270) concerns Hepzefi as a private citizen (see also Spalinger, 1985b: 16). Working on the assumption that one *aroura* of land = 100 *h>t* of land [ibid: 16], the contract specifies that Hepzefi's statue gives:

Overseer of the Necropolis	4 *arouras* of land
His Assistants (9 x 2 *arouras*)	18 *arouras* of land
Total	22 *arouras* of land

In addition, each man receives the foot (not the whole leg) of every bull that would be slaughtered in the highland. In return, they give to the cult of Hepzefi:

	Ds-jars of beer	flat loaves	white bread
Overseer	2	100	10
Highland Chief	1	50	5
Eight Mountaineers	8	400	40
Total	11	550	55

The land offered by Hepzefi was part of his paternal inheritance, rather than nomarchal land. Spalinger (1985b) speculates that there is a missing entry in this contract which would have effected a redistribution of the beer and bread to the temple staff, with the chief priest receiving double the share of each of the remaining staff, as in previous contracts. It is also worth noting that, unlike Contract III where payments were made in days of the Wepwawat Temple revenues, payments in Contract IX were made from private land, indicating the possibility that Hepzefi had no inheritance of temple days at Anubis.

Ordering Relations between the Living and the Dead

Overall, these transactions are of a very different nature to those examined in the previous section. Redistributive transactions they surely were, with the *ka* priest being the key figure, playing the same central role as that played by the state in the previous section. Here, the inflow and outflow of goods are mediated through the *ka* priest. He was expected to act as the sole agent for Hepzefi, making transactions and monitoring their execution on his behalf. These transactions are akin to the execution of a will in modern times, for the redistributive pattern is established once and for all once each contract was written. Subsequent nomarchs and high priests may have caused interruption in the redistributive patterns by reneging on some of the contractual terms, particularly those that may have adversely affected their own revenues. But in the main, they would have been constrained considerably by past practices and traditions underpinned by *Maat*, and by the power of inscribed accounting entries reflected in these contracts. We are therefore in the presence of accounting inscriptions that underpinned the contractual terms of the dead which were stipulated during their life times. By drawing on accounting expertise, the scribes were able to specify in each contract the debits and credits, both in terms of stating the amounts of each and the appropriate exchange parties. Once inscribed, these accounting numbers acquired a power of their own; for they served not only as an indication of what went on in the past, but they also endowed the past with apparent order, rationality, legitimacy, and authority.

Another main difference between these contracts and the inscriptions discussed in the previous section is the voluntary nature of the contracts, which were not enforceable by law. In a classic redistributive economy, the monarch or the state is ultimately responsible for the administration of the economy and the distribution of provisions to all sectors of the population (this, of course, says nothing about whether or not these provisions were determined fairly from a social welfare perspective). With this centrality of the monarch or the state comes the power to order, direct, control, administer, and dominate; all are bureaucratic tendencies in which accounting was heavily implicated in the case of ancient Egypt. Although the *ka* priest may have been empowered to control and monitor the transactions on behalf of Hepzefi, the scope of his control does not appear to be anywhere near as extensive as that observed at the level of the state. In the transactions contained in the contracts examined in this section, the role of accounting may have been intended to focus primarily upon providing an authoritative inscription of a pattern of redistribution that had to be observed once the person who bequeathed the will had died. Compliance with such contracts was compelled at least as much by social norms as by the power of the law, hence the importance of *Maat*, and by the incentives built into the contracts to motivate temple staff and priesthood to promote the cult of the dead person for perpetuity. Thus, accounting inscriptions enshrined in the contracts bound individuals (the living and the dead) and ordered their relationships across time in an interlocking web of dependency.

The diversity of accounting measures contained in these contracts is also of significance. For in them we encounter beer, two types of bread loaves, barley, meat, land, and even temple-days, with each being construed as an economic good with precisely denominated values assigned to them via accounting metrics. The other interesting, yet difficult to interpret, point is the seemingly important multiplier of 11. For just as we observed in the case of the tax liability measured in *Set*-duck in Chapter 6, the use of the number 11 is frequent in these contracts. It is quite likely that this is an extension of the system of organizing work into teams of nine subordinates and one overseer (who receives twice as much payments as each subordinate), thereby giving 11 persons of equal shares (see Mueller, 1975; Roth, 1991).

REFLECTIONS

The main aim of this chapter was to examine the role of accounting inscriptions in two specific, but predominantly, redistributive patterns from the Middle Kingdom in ancient Egypt. The first example involved provisioning for members of the palace and their dependants while on a royal journey. The second concerned contracts written by a man during his life to ensure the flow of provisions intended to promote his own cult in the temple after his death. It is important to locate the role of accounting in these two instances within the context of the Middle Kingdom during which two historical and social discontinuities occurred (see Chapter 2).

First, the Middle Kingdom was preceded by the chaotic First Intermediate Period (2133–2041 BCE) that had a profound impact upon the social and political fabric of life in ancient Egypt. Literary sources offer unique insights into the traumas experienced by the ordinary Egyptian during the First Intermediate Period, which resulted in significant revisions in the relationship between ruler and ruled during the Middle Kingdom. Socially, this change was manifest in greater emphasis upon social justice as reflected in the concept of *Maat*, whereby more than ever before the Pharaoh was expected to observe and uphold justice in the land. Through the use of inscribed accounts and the visibility that this created, superiors could demonstrate to their subordinates that *Maat* as order and justice was observed. The determination and inscription of precise and recurring rations for individuals of different ranks or undertaking different tasks was a demonstration of doing *Maat*. These inscribed accounts also provided the means for subordinates to demonstrate to their superiors and peers their integrity, responsibility, efficiency, and trust-worthiness, the very qualities frequently celebrated in tomb reliefs and autobiographies as reflecting the essence of *Maat*.

The second major discontinuity occurred from the Twelfth Dynasty onwards, and in particular during the reign of Sesostris III, with the advent of military activities in the South (Nubia). These military campaigns provided the conditions of possibility for a massive expansion in state bureaucracy, significant increase in administrative titles, and greater refinement in the nature of tasks, all of which were formalized through inscriptions. This was accompanied by increased reliance upon bookkeeping and accounting. The scribes provided more detailed recording of activities that made it easier for state administrators to order lives by tracing out and monitoring the flow of resources into the Treasury and out again in the form of redistribution. The summary daily accounts of Papyrus Bulaq 18 examined in this chapter are just one example of this urge to record transactions in much greater detail and over shorter temporal intervals compared to many of the accounting inscriptions of the Old Kingdom.

The various accounting innovations discussed earlier in relation to Papyrus Bulaq 18 demonstrate the high skills of the scribes and testify to the sophisticated nature of their technical expertise. This expertise made possible the daily matching of consumption patterns against revenues (receipts) for each main commodity; the use of the 'due today' entry to balance inflows and outflows when different; the running of recurring daily balances of bread loaves; and the planning of near zero balances for commodities that needed to be kept fresh (vegetables) and which were not critical for survival. Moreover, the human chain of the redistributive system through which commodities and objects exchanged hands in the form of suppliers, receivers, distributors, and ultimate consumers, became intricately ordered into a set of complex and interdependent relationships co-ordinated in the main via accounting inscriptions. In sum, scribal technical expertise made it possible for an articulated redistributive system to function smoothly.

Further, these accounting inscriptions reveal significant asymmetry between the palace and ordinary people, whereby shortages in supply were never shared equally between the Royal family and the commoners. Accounting inscriptions underpinned the understanding that the burden was always borne by ordinary people, hence these inscriptions not only established a ladder of social importance and worth, but also became manifestations of an exercise in violence on the less privileged in society. The precise order in which different categories of recipients were inscribed also re-emphasized and visualized the social gaps in their rankings. In this strict order the Royal family came first, followed by the Palace dependants, and then by ordinary clients. By prioritizing claims in this manner, accounting inscriptions served to construct, legitimize and reinforce social order. First, accounting was the privileged occupation of the elite numerate and literate scribes who wielded significant power in ancient Egyptian society, and hence accounting became endowed with the legitimacy of occupational expertise (Ezzamel, 1994). Second, relations expressed through these inscriptions which enumerated quantities and prioritized individuals and institutions acquired a more precise form that had the aura of precision and objectivity. Third, accounting inscriptions were associated with the hierarchical structure of ancient Egyptian society and they constructed and underpinned this ordered structure in an explicit way. Fourth, accounting entries operationalized the all important concept of *Maat* (justice/order). For *Maat* did not imply egalitarianism via strict equality between all humans. Crucially, it implied preserving the status quo of the different ranks in society as any disturbance to that order was construed as an undesirable state of disorder and chaos that threatened the survival of the ancient Egyptian universe (Lichtheim, 1992).

Accounting also underpinned the writing and execution of private wills. In the case examined in this chapter, the contents of ten contracts were specified through accounting inscriptions, and their precise execution was monitored through the intervention of accounting. This example provides yet another demonstration of the centrality of accounting inscriptions for the ancient Egyptians in life and death, for accounting ordered the relationships between these two spheres. Moreover, the contracts testify to the high levels of scribal skills and the adaptability and malleability of accounting technologies in forging and executing private transactions. Accounting inscriptions were mobilized to assure Hepzefi, while alive but also when dead, that his soul will be provided for and that his cult will be promoted. For him, the promotion of his cult required giving, and this giving was not random or ad hoc, rather it was carefully calculated, not necessarily as a strict measure for measure but possibly an overcompensation to ensure future compliance with the terms of the contracts. Only by invoking accounting inscriptions and the ethical concept of *Maat* could Hepzefi ensure that the *measured* giving will be observed. He did not only provide a mere enumeration of objects to be given but, more importantly, each item was precisely quantified.

The technical expertise of the scribes is paraded in these contracts. For not only do we encounter a mere enumeration and quantification of different objects, but there is also an internal consistency that operates within the contracts. The senior priest was differentiated from his subordinates by having twice as much ration. A clear statement is made in the contracts as to the amounts to be paid by each named person and also their recompense is stipulated. These contracts show who had to pay what, and how they were to be (over)compensated, for what they paid. In modern terminology, the debits and credits were stated unambiguously. Moreover, not only do we here witness a simple exchange of conventional economic goods and the familiar kinds of money of account that we have encountered previously, but we also observe the use of temple days, inherited by Hepzefi, as payment precisely defined in terms of their temporal dimension (each being 1/360 of a year) and valued by reference to their constructed economic equivalence.

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The analysis in this chapter explored two forms of accounting inscriptions: one relating to the affairs of the palace and its dependants while on tour, and the other to the will of a private individual. In both cases, accounting inscriptions are seen to form indispensable canonized cultural texts (Assmann, 2006) and a store of knowledge made of discursive cultural events. This inscribed conscious archive (Foucault, 1972) is a permanent record of the collective memory of the ancient Egyptians of that time; an indelible record that constructs the affairs of the Palace as well those of private individuals. Every accounting entry was a sign system that linked the signifier (or group of signifiers) particular to a specific entry to the relevant signified, endowing both with a socially shared meaning. For the ancient Egyptians, these accounting inscriptions, made in the Hieroglyphs of the ancient Egyptian language, the language of the gods, were not to be taken lightly. Rather, they constructed order, and underscored *Maat* as the pristine condition of the world; and they were also performative by bringing about the very things of which they spoke. As indicated earlier, with every effort to assert order, there is an inescapable exercise in violence, symbolic as it may be. This exercise in violence was made manifest in the way the needs of the Palace were always accorded the utmost priority, given the biggest rations and never made to suffer from any shortages in supply, in contrast to the case of other people.

Taken together, these varied roles played by accounting inscriptions in two separate spheres of the economy, one relating to the state and the other to the cult of private individuals, underscore the power of accounting. These accounting inscriptions show that we are not in the presence of some crude, and by modern standards ‘simplistic’ and inferior, accounting technology. Rather, we encounter an accounting that developed as part and parcel of the social, economic, and political contexts of the society of the Middle Kingdom. These accounting inscriptions were inextricably linked to the institutions in which they operated, the Palace, its dependants, the priesthood, and the cult of the dead. That the nature of the entries, their frequency, and the units of measurement used may have varied across the Palace accounts and the contracts of the temple suggests that the scribes did not simply and un-reflexively apply some static and inflexible system of accounting to all settings. Rather, the inscriptions suggest what we have come to appreciate only more recently, that accounting even in its ancient form both mediates and is mediated by the social, religious, political, and economic contexts in which it operates.

9 Accounting and Ordering the Activities of the Funerary Temples

> "Death is to be honored as the cradle of life, the womb of renewal. Once separated from life, it becomes grotesque, a wraith—or even worse." (Thomas Mann, *The Magic Mountain*, cited in Assmann, 2005: v)

> "death is the origin and center of culture" (Assmann, 2005: 1)

In contemporary societies, human mortality or death brings with it a whole host of accounting interventions. The instance of death, particularly of the head of a household, triggers numerous accounting calculations and valuations. For example, inventories left by the dead are enumerated, counted, valued, aggregated, and inheritance tax is levied with the remainder distributed among those entitled to inheritance. Moreover, significant resources are pledged for death, not only for the preparation for burial but also for preserving the memory of the dead. Yet, in academic writing the role of accounting technologies in intervening in, and constructing, the activities dealing with death is little understood because the extant literature has tended to focus upon the activities of the living. In the case of ancient Egypt, most treatments of accounting for death have centred on economic aspects, that is, the cost of making funerary equipment (Janssen, 1975a), or promoting the cult of the dead (Spalinger, 1985b). Cooney (2007: 1–2) goes further in seeking to "track the production and manipulation of funerary arts—particularly coffins—both as commodities and ritually charged objects, whose value was mediated and negotiated through a complex network of social, economic, and ideological systems." Despite her illuminating analysis, her emphasis is focused on how prices are derived and thus the social, ideological, and ritual dimensions do not receive the attention they deserve.

The concern in this chapter is quite different from previous literature. The aim here is to explore how the activities of funerary temples in ancient Egypt connected to the notion of order, and how accounting inscriptions helped to construct, underpin, and promote order. For death in ancient Egypt, as Assmann (2005: 1–2) notes, was not simply one of many areas of cultural praxis, but rather:

> "a center of cultural consciousness, one that radiated into many—we might almost say, into all-other areas of ancient Egyptian culture. . . . I want to reach beyond the world of tombs, funerary rituals, and funerary texts and into other areas of Egyptian thought, action, and conduct, such as ethics, historical consciousness, cosmology, conceptions of the

> divine, and so forth and inquire to what extent these areas were stamped by the typically Egyptian preoccupation with the theme of death."

As evident from the analysis throughout this book, all the areas that Assmann details have been shown to be inextricably linked to the notion of order: conduct and ethics (*Maat*), consciousness, cosmology, conceptions of the divine, kingship, and so on. Quite literally, it is through constructing notions of order in these domains that the ancient Egyptians invented themselves, "as a fundamental reflection of divine order" (Kemp, 2006: 61), and the aim of this chapter is to uncover the role of accounting inscription in such an invention.

Funerary institutions provide a unique and an indelible link between the living and the dead. As funerary temples are run by the living seemingly for the benefit of the dead, several activities ensue whereby the sacred is intertwined with the routine of daily life. Sacred activities, such as those of priests, frequently intermingle with what has become viewed as the profane, for example, accounting for maintenance work and provisioning for temple personnel. Exploring the role of accounting inscriptions in such a unique setting could shed further light on the roles played by accounting in ordering these activities. Precious little is known about how funerary temples were organized in previous civilizations, what kinds of accounting technologies were used, and how the functioning of such institutions was underpinned by accounting.

Durkheim (1976: 37) argues that religious thought models the world as being made of two distinct domains "the one containing all that is sacred, the other all that is profane"; thus the sacred and profane domains have been understood by many scholars to be clearly distinguishable and demarcated with no overlap. Similarly, for Eliade (1959: 26) the sacred is created by "detaching a territory from the surrounding cosmic milieu and making it qualitatively different" with such qualitative difference demarcating the boundaries separating the sacred from the profane. Despite modelling some aspects of human behaviour on those of the gods, as a human "imitates the paradigmatic gestures of the gods, repeats their actions, whether in the case of a simple physiological function such as eating or of a social, economic, cultural, military, or other activity" (ibid: 98), these gestures are understood as allowing humans to "live in the presence of the gods" (ibid: 105), but the sacred and the profane remain distinctly differentiated, as the sacred becomes "the manifestation of something of a wholly different order, a reality that does not belong to our world, in objects that are an integral part of our natural 'profane world' (ibid: 11).

Rather than treating the views of Durkheim and Eliade as a heuristic that helps to understand the concepts of the sacred and the profane but without rendering them antagonistic, some researchers preferred to underscore this distinction. For example, in an interesting study Laughlin (1988) examines the role of accounting in the Church of England, and his analysis treats accounting as something profane, seen in the context of the church as an unwanted intervention into the sacred domain. At the level of the parish church, accounting practices are "highly rudimentary and are deemed highly irrelevant to the ongoing life of the parish" (ibid: 23). At the level of the Diocese, accounting practices are reported to be much more elaborate, and only used to generate sufficient income to cover fixed expenditures, but never to question what was going on "such that the sacred work could continue unhindered and untroubled by such matters" (ibid: 33). So profane was accounting considered by Laughlin that it was accorded a marginal role in the parish church: "parish accounting systems are rudimentary, precisely because they actually have no part to play in this clearly demarcated spiritual unit" (ibid: 38). The material examined in Chapters 4 and 8, which points to a symbiosis between the domains of the sacred and profane, offers an alternative view to that emphasized by Laughlin. This chapter examines more inscriptions which further question the sacred the profane duality, and underscores the argument (developed in Chapter 4) that the context of ancient Egypt opens up the possibility for viewing accounting as part of the intertwined assemblage of sacred and profane activities.

As noted earlier, one of the distinguishing features of ancient Egyptian civilization is its concern with death, conceptualized as a continuation of life or as a journey to life in the 'other world' (Assmann, 2005; see also Chapter 4). Thomas Mann's quote at the beginning of this chapter which states that death is the 'cradle of life' and the 'womb of renewal' resonates strongly with the ancient Egyptian view of death. Similarly, Assmann's (2005: 1) statement that 'death is the origin and center of culture' emanates from his original and insightful conceptualization of death in ancient Egypt. As we have seen in Chapter 8, committing resources to preserve the cult of the dead over time was an obsession for important individuals, and of course for the Pharaohs for whom large funerary temples were built. Throughout ancient Egyptian history, accounting inscriptions were used extensively to record funerary offerings. State and royal temples tended to be large in size and have major building and maintenance work, with large amounts of wealth endowments and foodstuffs dedicated to them regularly. They employed vast numbers of people, ranging from priests through scribes to craftsmen and labourers whose ordering and organization posed significant co-ordination and monitoring challenges to the ancient scribes. Moreover, priests were frequently appointed as custodians of endowments to funerary cults and were expected to act in ways stipulated by contractual relationships between them and the dead (see Chapter 8). Rations, differentiated by occupation or rank, were distributed among temple staff. To pay for these activities, funerary temples relied on various economic institutions for the provision of foodstuffs and other materials, and their revenues and expenditures had to be balanced on a regular, more or less daily, basis in order to ensure the continuity of their activities.

This chapter explores the role of accounting inscriptions in the functioning of funerary temples during the Old Kingdom (2575–2134 BCE) as institutions where religious and administrative matters intermingled, with specific emphasis on how these inscriptions functioned as ordering performative rituals. The analysis undertaken here deals with two issues. First, understanding the role of accounting inscriptions in mediating the activities that occurred *within* the temple; in particular: (a) organizing, measuring, monitoring, and evaluating work undertaken; (b) ordering the contractual relationship between the dead and the priests who were custodians of endowments; and (c) securing appropriate rations for temple personnel. Second, uncovering the inscribed network of relations that linked funerary temples to *outside* institutions which provided them with various items including foodstuffs.

In ancient Egypt, the term 'funerary temple' is by no means straightforward. Two types of temple were built for gods (divine temples) and kings or important officials (funerary/mortuary/memorial/royal temples). However, a closer inspection of the structure and activities of both types of temple indicates that such binary distinction is problematical, as some parallel activities were carried out in both (e.g., Harring, 1997; Quirke, 1997; Haeny, 1998). While bearing this in mind, the term 'funerary temple' is used here to designate primarily but not exclusively temples built to celebrate and promote the cult of dead kings and important officials. Memorial and funerary temples have been dubbed 'divine households' (Haring, 1997) because it was in these temples that the dead Pharaohs, constituted as 'gods', and the gods themselves, had their home, and where they were "venerated and cared for by priests" (ibid: v). Moreover, some Egyptologists have tended to treat the economy of the temple as something similar to that of the household of a high official, with resources and personnel organized with the aim of providing sustenance to the owner and his family (Helck, cited in Haring, ibid: 1). As Haring has noted, the concept of household as applied to the temple is not only symbolic but has a literal meaning: "the statues that stood in closed shrines in the dark innermost parts of the temple were not tokens, but living images. They were bodies fashioned by craftsmen, and the gods entered into them in order to rest . . . in the temple" (ibid: 1). By acting as the living personification of dead Pharaohs, statues of Pharaohs each carried the name of the Pharaoh and partook of the gifts laid before it (Haeny, 1998: 125).

Endowments were given by the Pharaohs to the temples, such as the Hathor-cult[1] at Thene, and earmarked as sinecure for the support of priests. Although Goedicke (1979) suggests that the Hathor-cult was established purely to legitimize kingship, rather than to satisfy communal religious needs, the very act of temple endowment and offerings by Pharaohs underscored their desire to be seen to be doing *Maat*, by ensuring the survival of the temples and securing the preservation of the cults of the Pharaoh's family and important royal followers. The Pharaoh:

> "was envisaged as destined for a meaningful afterlife, those who have been affiliated with the King on earth expected, to an increasing degree, to follow their earthly lord and to enjoy a hereafter with him" (ibid: 120).

Such religious and spiritual aspirations did not occur in a vacuum but their fulfilment had significant consequences:

> "Such extended funerary care, however, required administrative and economic preparations, especially as the continuation of existence beyond death was seen as depending on permanent physical care and provisioning. This task, like the maintaining of the royal court and its members and dependents, was the concern of the royal economy, which supported the funerary needs of the royal followers entered in closely defined cemeteries." (ibid: 120–121)

The accounting inscriptions examined in this chapter show the intervention of accounting and scribes in a variety of activities, including temple endowments and the distribution of precise rations of foodstuffs among temple personnel. The inscriptions also show how responsibility for the management of temple land endowment was allocated among temple priests, acting not only as spiritual leaders but also as custodians for the dead. The analysis suggests that the functioning of the institutions that provided for funerary temples was underpinned by accounting technologies where the sacred intermingled with the profane.

EARLY EXAMPLES OF THE ROLE OF ACCOUNTING IN THE TEMPLES

This section examines some early examples of the royal economy for funerary temples and the role of accounting inscriptions therein. The scribes recorded a wide range of activities involving funerary offerings to subjects favoured by the Pharaoh as a means of rewarding their achievements. An example from the reign of Senefru, 2575–2551 BCE (Breasted, 1906/1988: 75–79) shows that Methen, the chief scribe of the provisions magazine, was to receive a house 200 cubits long and 200 cubits wide[2] with a large lake. In addition:

> "There were conveyed to him as a reward 200 stat [*aroura*][3] of lands . . . and a mortuary offering of 100 loaves every day from the mortuary temple of the mother of the king's children, Nemathap . . . A vineyard was made for him: 2,000 stat of land within the wall: trees were set out." (Breasted, 1906/1988: 77–78)

On the face of it, this text appears to be no more than a simple listing of objects and quantities. Yet, such an inscription would have relied upon a number of calculations. The endowment of a large house, 200 stat of (presumably agricultural) land and a vineyard of the size of 2,000 stat would both have required some kind of calculation. Moreover, the stipulation of a daily offering of 100 loaves of bread from the mortuary temple of the Pharaoh's wife would have had to take into account the daily revenues and expenditures of that temple before the continuation of the offer could be guaranteed. This royal offering to Methen would have set in motion various calculations to *determine the magnitude* of the royal reward to an important official as befit the Pharaoh. Moreover, it would have also triggered a set of actions to ensure the *delivery* of the offerings for as long as was intended.

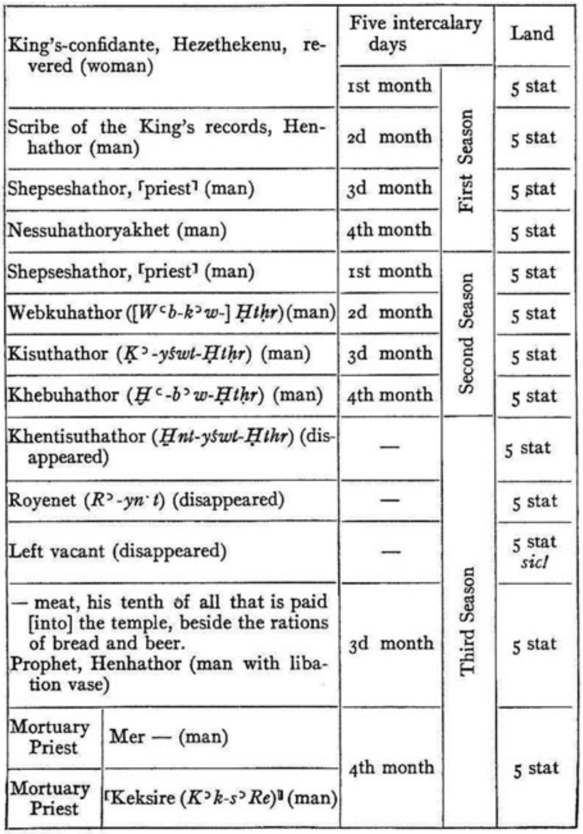
Officials who were the recipients of funerary endowments were able to emphasize their ownership and control over land and to stipulate specific punitive measures against priests who were entrusted with the management of the endowment for the benefit of the mortuary cult. In an inscription from the reign of Khafre (2520–2494 BCE) an official whose name is lost states (ibid: 92):

> "I have not empowered any mortuary priest of the endowment, to give the lands, people or [anything which I have conveyed to them, for making mortuary offerings to me], therewith in payment to any person; or to give as property to any person . . . Whatsoever mortuary priest of the endowment shall violate. . . . of my mortuary offerings, which the king gave to honor me, the portion in his possession shall be taken from him . . . Whatsoever mortuary priest of the endowment shall institute legal proceedings against his fellow, and he shall make a writ of his claim against the mortuary priest, by which he (the defendant) forfeits the portion in his possession; the lands, people and everything shall be taken from him, which I gave to him for making mortuary offerings to me."

The remainder of the inscription shows this official instructing ten temple priests to take out whatever payments that had to be made against his endowment, in the form of approved liabilities, and "[t]he portion which remains afterward, shall belong, by tenths, to those (priestly) orders" (ibid: 93), so that each of the ten priests would have been entrusted with the management of 1/10 of his net funerary endowment. These inscriptions are evidence of ownership which allowed the owner to reclaim the endowments back should his managing agents deviate from his instructions. The inscriptions relating to the cult of the dead were not only ceremonial but were also the embodiment of a whole set of economic relations. They were performative in so far as they expressed *intention* to trigger *action* whenever the contractual relations were violated.

The Fifth Dynasty offers more detailed and intriguing evidence on the role of accounting in temple activities. The remainder of this section

Table 9.1 Land Endowment of Nekonekh*



King's-confidante, Hezethekenu, revered (woman)	Five intercalary days		Land
	1st month	First Season	5 stat
Scribe of the King's records, Henhathor (man)	2d month		5 stat
Shepseshathor, ⌜priest⌝ (man)	3d month		5 stat
Nessuhathoryakhet (man)	4th month		5 stat
Shepseshathor, ⌜priest⌝ (man)	1st month	Second Season	5 stat
Webkuhathor ([*Wᶜb-kᵓw-*] *Ḥtḥr*)(man)	2d month		5 stat
Kisuthathor (*Ḳᵓ-yśwt-Ḥtḥr*) (man)	3d month		5 stat
Khebuhathor (*H̱ᶜ-bᵓw-Ḥtḥr*) (man)	4th month		5 stat
Khentisuthathor (*H̱nt-yśwt-Ḥthr*) (disappeared)	—	Third Season	5 stat
Royenet (*Rᵓ-yn·t*) (disappeared)	—		5 stat
Left vacant (disappeared)	—		5 stat *sic!*
— meat, his tenth of all that is paid [into] the temple, beside the rations of bread and beer. Prophet, Henhathor (man with libation vase)	3d month		5 stat
Mortuary Priest Mer — (man)	4th month		5 stat
Mortuary Priest ⌜Keksire (*Kᵓk-sᵓ Re*)⌝ (man)			

**Source:* J.H. Breasted, *Ancient Egyptian Records - Part One*. London: Histories and Mysteries of Man Ltd., p.102.

examines the land endowment of Nekonekh whereas the next two sections deal with the Abusir Papyri that contain some of this evidence.

Table 9.1 is organized in a tabular format in which the scribe arranged his entries to cover: (i) an initial listing of the names of temple priests; (ii) the period of time covered (a full year) against the name of each priest, detailed by month and season; and (iii) the amount of land held by each priest. The table also contains some reference to rations to be paid, in the form of meat, bread and beer. The endowment was made by Userkaf (2465–2458 BCE) to the temple of the local Hathor of Royenet, to be administered, along with another tomb endowment not examined here (ibid: 103–107), by the temple priesthood. Nekonekh, to whom the endowment of Userkaf was made, was a steward of the palace and a priest of Hathor. He allocated the endowment between his thirteen children as priests of Hathor; one month each to eleven children with the twelfth month equally shared by the other two.

Similarly, the sixty stat (*aroura*) were allocated so that each of the eleven children was to receive income from five stat, with the two remaining children sharing the income of five stat.

Another incidence of accounting intervention concerns the determination and distribution of rations or temple provisions as shown on line 22 of Table 9.1. Here we encounter precise quantities of different types of foodstuffs, as reflected in "the rations of bread and beer", allocated to individual members of temple staff. To be in a position to determine these rations in the first instance, another set of calculations relating to the supply side would have had to be made. For without securing the right amounts of supplies in terms of variety (e.g., beer, bread, meat) and quantity (e.g., numbers of loaves of bread) it would not have been possible for the temple scribes to meet the demand for these items.

Although these examples focus more upon the demand side (daily rations for temple personnel), the absence of information on the supply side should not be taken to imply that supply was not planned. As shown here, the matching of supply and demand by the scribes was an intricate exercise underpinned by significant expertise in accounting and administrative know-how. What cannot be said from the inspection of these inscriptions, however, is whether demand drove supply, or whether supply determined levels of rations for temple personnel. To the extent that the rations per person corresponded to a widely used metric, then we may assume that demand for provisions determined supply. But in periods of economic crises, it is likely that levels of supply available impacted levels of provisions.

Of course, these early examples of accounting for temple activities could be interpreted from a purely rational, economic perspective. In this perspective, funerary and temple activities would be stripped down to rational logic, with the domain of the spiritual subjected to the calculus of profane accounting and administrative technologies. Apart from performing their religious duties, priests would be viewed as economic agents managing specific accounting-based allocations of the funerary endowments on behalf of, and subject to the instructions of, the owner as the principal. Such a perspective locates accounting at the centre of rational allocative practices employed in the temples and funerary cults in the Old Kingdom, determining precisely how much land would be allocated to each priest, and for what length of time. The punitive measures in the inscriptions stipulating how the penalties were to be exercised whenever a priest was found in breach of contract with the dead owner would be considered part of this rational, economic apparatus. Accounting would therefore be conceptualized as a technology that brought the living and the dead into a unity forged through a set of rationally determined economic rights and obligations. In this way, economic relations would be brought to the forefront, even among the priests, and they would be underscored and rendered visible through the intervention of accounting, with each priest incited to be vigilant by watching over the actions of other priests and reporting on those who do not act according to the terms of the contract. This perspective of rational economic order would also suggest that, to the extent that priestly training, socialisation, and spiritual aspirations militated against opportunistic behaviour, this would not be considered sufficient when dealing with the management of temple endowments. In contemporary terminology, the intervention of accounting would be seen to have brought a more precise and worldly dimension to priestly responsibilities concerned with managing temple endowments as rational technologies of monitoring would still be deemed necessary. Yet, while this rational perspective has certain attractions, it will be argued later that an exclusive reliance on it is antithetical to ancient Egyptian thinking. It will also be argued that ancient Egyptian accounting functioned as an intermediary technology that fused the supernatural and material worlds into one unity.

ACCOUNTING INSCRIPTIONS IN THE ABUSIR PAPYRI

The site where the Abusir Papyri were excavated[4] was the funerary temple of Pharaoh Néferirkarê-Kakai (2446–2426 BCE). The Papyri contain records of temple activities during the reign of several Pharaohs from Néferirkarê-Kakai onwards, for a period of approximately 200 years. In contrast to the inscriptions engraved on stone analyzed earlier, the Abusir Papyri "are at the moment the most ancient published papyri as the vast majority of preserved fragments belong to the reign of Isesi (around 2388–2356 BCE) and the most recent is contemporary with the reign of Pepi II (2246–2152 BCE)" (Posener-Kriéger, 1979: 133).[5]

The reign of Néferirkarê-Kakai is poorly documented but is thought to have lasted between ten and twenty years.[6] He ascended the throne in middle age, and his funerary complex was completed after his death by his successors Neferefre and Niouserre. The funerary complex (see Posener-Kriéger, 1976: 493–533) consisted of three main parts: the funerary temple of Néferirkarê-Kakai; the solar temple of Re, and the royal temple of the Queen Mother.[7] The Abusir Papyri show that large supplies of foodstuffs were consumed daily by temple personnel; for example, every day it had a provision of twenty two fowl and one large cow.[8]

Records in the Abusir Papyri

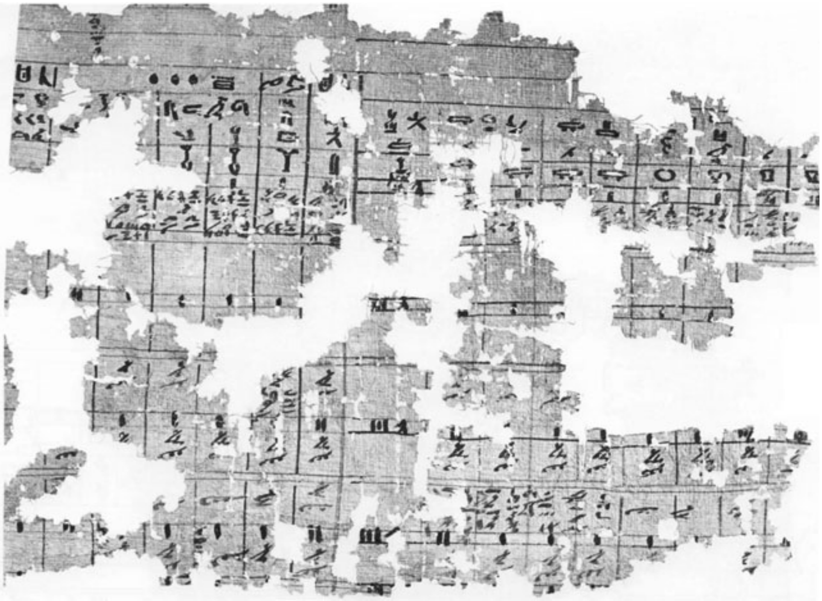
By meticulously piecing together the various fragments of the Abusir Papyri, Posener-Kriéger, and Cenival (1968) were able to re-assemble 104 plates of inscriptions which they classified into six different categories: duty tables, inventory lists, accounts, personnel lists, records of temple inspection, and letters. Of these, the last two categories do not contain accounting entries, and the personnel lists had some accounting entries but their details are missing. Hence, the following discussion focuses on the first three categories.

Duty Tables: These tables share three key features: format, frequency, and content. Concerning format, the tables were inscribed either in aggregate, summary terms or arranged as compartments of a grid detailing the duties to be performed. Both forms are complementary, for the summary tables are an aggregate outline of the tasks that were later inscribed in more detail. As to frequency, the duty tables were either prepared daily for every month of the year, or compiled for special occasions such as feasts. In terms of content, each table consisted of columns containing the following: the year, the reign of the relevant Pharaoh, the subject matter of the inscriptions, the date a particular duty had to be performed, the tasks to be performed, and the titles and names of staff on duty (Posener-Kriéger, 1976: 8). Hardly any of the duty tables in the Abusir papyri has survived intact. The duty tables contained numerous entries relating to the organization and control of labour activities. They specify either in detail or summary form the tasks to be performed by members of each phyle (a group of workmen whose members could reach between 40 and 50 men; see Chapter 11) while on duty. The grid format was used for detailed entries. The tasks can be classified into four categories (Posener-Kriéger, 1976: 15–57) concerning: (a) the cult of the dead Pharaoh (providing oils, deliveries to the place of ritual, supplying an offering table, and performing the rite of libation, rituals, and tomb purification); (b) guarding and policing the temple (the exterior and interior, the terrace, storerooms, permanent temple duties, the sanctuary, the boats, the pottery, and the torch/fire light); (c) transportation (of divine offerings, meat, and vegetables); and (d) royal statues. Several scribes, with their title designations, were also listed (ibid: 109). The tables include one example enlisting supplies, for the Night of Re festival, of drinks brought from the sun temple of *St-ib-R'* and materials from the Residence, but the numbers are missing (ibid: 116–117).

Inventory Lists: These were also kept either in detail or as summaries, recording a large variety of materials and objects differentiated by name (ibid: 162–187). The materials included silver, gold, precious minerals and hard stone, crude/rough stone, red meteoric iron, flint, quartz, incense, various wooden objects and acacia wood, copper, lapis-lazuli, fabrics, and oils. The inventoried objects included goblets, bowls, plates, offering tables of various types, blades, ritual and ordinary knives, vases of different types, pellets, chests/trunks, altars, batons, mortar, pearl strings, necklaces, needles, incense, bottles, oils, and divine boats. It seems that no object escaped the attention of the scribes. Entries for each individual type of material or object were made in the inventory lists.

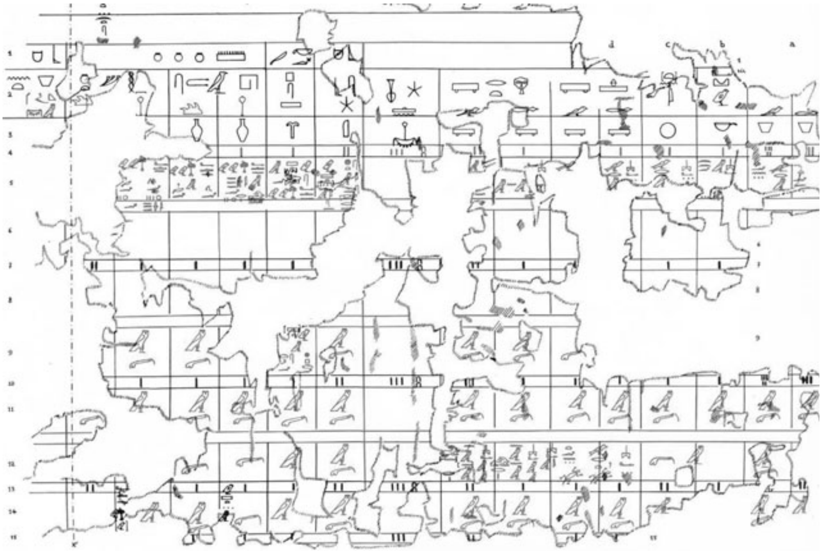
Table 9.2a is a black and white copy of the original account, Table 9.2b is a re-writing of the original table using the original colours, and Table 9.2c is a translation of the table. Table 9.2c reveals that the scribe used an ordered grid pattern to organize the tabular format of the inventory

Table 9.2a Inventory List: The Abusir Papyri*



* Source: P. Posner-Kriéger and J.L. De Cenival, *Hieratic Papyri in the British Museum*, London, The Trustees of the British Museum, 1968, Plate XX.

Table 9.2b Inventory List: The Abusir Papyri*



* Source: P. Posner-Kriéger and J.L. De Cenival, *Hieratic Papyri in the British Museum*, London, The Trustees of the British Museum, 1968, Plate XXA.

Table 9.2c Inventory List: The Abusir Papyri*

haematite	crystalline stone				flint	iron			
bowl:	bowls		vases		ritual knife	blade	total of	offering-tables	
gold-plated	black	white	black	white				small	large
							silver items		
1	2	1	1	1	1	2	23	2	1
	(?)	various repairs to rim & base (x2) (x2) & to sides	repairs to rim & base	repairs to sides; holed (x2)	handle chipped; repaired	splinters missing, having been dropped		badly split; loose joints; corroded	badly split; loose joints; corroded
1	2	1	1	1	1	2	23	2	1
	(?)	ditto	ditto	ditto	handle & blade chipped	ditto		ditto	ditto
1	2	1	1	1	1	2	23	2	1
	ditto	ditto	ditto	ditto	ditto	ditto		ditto	ditto
	(?)	ditto	ditto	ditto	ditto	ditto		badly split; loose joints; holed	badly split; loose joints; holed
1	2	1	1	1	1	2	23	2	1
		(repairs) ditto	ditto	(chipped) ditto	ditto	ditto		ditto	ditto
1	2	1	1	1	1	2	23	2	1

**Source:* B.J. Kemp, *Ancient Egypt: Anatomy of a Civilization*, London: Routledge, p118.

list. The original of this inventory list (Posener-Kriéger and Cenival, 1968: plate XX) contains sixteen columns but they are not all reproduced here because some columns are damaged. An examination of this grid pattern shows that the "tidy minds" (Kemp, 1989: 112) of the scribes were at work. Rather than provide a simple list of inventory items, the scribes exploited the grid pattern to order the inventory in a three-tier classification, so that at a glance the status of any particular item or category can be checked:

- The first tier refers to a broad heading: crystalline stone, flint, and iron.
- The second tier provides a more refined designation of objects. Crystalline stones are divided by type into bowls and vases. Only flint

ritual knives and iron blades are listed; these are not classified further into finer categories. Further, at this second tier level a new item is listed as offering tables, which, for some reason, are not classified under a broader title. Hence, the scribes maintained an element of flexibility in utilizing the classification scheme rather than being rigidly restricted by its coding structure.

- The third tier contains an even finer level of detail, so crystalline bowls and vases are each divided by colour into black or white. Similarly, offering tables are classified further by size into small or large. Silver items are entered as a new category.

In the appropriate space within this grid the scribes made entries of the various items or objects which required recording. This type of inventory list was reserved for recording all items that had been damaged while in the custody of the departing phyle and before the incoming phyle had arrived. Responsibility for damaged items was therefore allocated to the appropriate phyle in service when the damage occurred. As Table 9.2c demonstrates, not only did the scribes list the number and type of damaged items, they also provided a description of the damage or repair required. Thus, the black vase in the first entry required repairs to rim and base, whereas the splinters of the iron blade were missing, having been dropped. The small and large offering tables were badly split with loose joints and corrosion. In contrast, the silver objects, while not being precisely defined or itemized, were repeatedly recorded as totals (23 items/units).

In the original version of the hieroglyphic inscription, the combination of red and black ink was used to good effect both in drawing the lines of the grid and in the enumeration of items and description of their status. Red and black lines were used both horizontally and vertically to define the cells in the grid. Moreover, although the designation of categories in the classification scheme was made mainly in black, the first line of numbers of items and the description of their condition were made in red. Thereafter, the description of the condition of items continued to be in red, whereas the numbers were inscribed in black.

The grid structure of the inventory lists has double cells (or spaces) located immediately below the listing of the numbers of items of a particular category. The first cell is much larger than the second, and it is in the first that the scribes detailed damage to items and repairs required. On occasion, the description continued into the second cell, as in the case of the white crystalline bowl in the first entry. The remainder of this second type of cell is blank, and this has given rise to some uncertainty regarding its purpose. Kemp (1989: 113) states that this "reflects some kind of double-entry procedure which is not properly understood, for the space of each set of inscriptions is itself subdivided by double lines ruled in red to accommodate two sets of observations if necessary."[9]

The structure and organization of inventory tables remain the same throughout (see Posener-Kriéger, 1976: 125–127). Once items were entered into the inventory lists, identified in number and described in detail, inspection ensued thereafter. In the case of the single list an inspection was followed by a red line before listing the numbers of the items inspected followed by a black line, and so the cycle of inspection and listing was continually repeated. In the case of the double-line lists, an inspection was followed by a black line, then by listing of numbers of items followed by a black line, then another inspection was recorded followed by double red lines, before another round of inspection took place. Hence, whether a single or double type of inventory table was used, repeated inspection of the inventoried items were made, and in each case the inspection was followed by entries stating the condition and number of the items inspected.

Posener-Kriéger (ibid: 127–128) offers two possible explanations of the purpose of the double-line inventory list. Either it was used to verify the inventory items by recording them as they left the temple and upon their return to the temple, or it was made by two different inspectors upon their return, with the second entry corroborating the first. But she then surmises that the second interpretation is the more likely, because damaged items observed for the first time were nearly always entered on the first, but not the second, line of inspection. On occasion, when the first inspector failed to notice and record a damaged item, this was recorded on the second line by the second inspector. Posener-Kriéger (ibid: 128) argues that the second interpretation "is corroborated by the existence, in the single-line list, of oblique lines next to the figures: these lines could have been drawn by the second inspector." It would seem therefore that the description of the condition of the damaged items of inventory registered on the first line was the report of an earlier inventory made by the first inspector. Although the different successive lines of inspection correspond to the rotation of the phyles on duty in the temple and could therefore be suggestive of a link between the inventoried material and phyle rotation, this potential link remains tenuous (see also ibid: 128–129).

Daily and Monthly Temple Income Accounts: These accounts are a large part of the Abusir Papyri and cover a variety of types, including ten-day (weekly) journals, monthly revenue accounts, accounts of fabrics, meat, fowl, grain, distribution of food provisions to temple personnel, transfer of offerings, seasonal accounts, and accounts of deliveries during festivals. The regularity and neatness of the daily accounts led Posener-Kriéger and Cenival (1968: xiv) to surmise that they were copied from notes. Before any detailed examples are discussed, a brief summary of the types of items entered in most accounts is offered in order to appreciate their level of detail and complexity (Posener-Kriéger, 1976: 231–339). There are seven broad categories, and within each category several individual items can be distinguished. The categories include bread and cakes, liquids/drinks, meat, fowl, animals, cereal, and other products (mainly oils and fat). In all, 64 items are classified under the seven categories, each differentiated by the quantity provided or distributed. The majority of items were counted: numbers of loaves of bread, cakes, jugs of beer, pieces of meat, heads of livestock, fowl, and pots of oil and fat, but the *khar* (= 76.88 litres) money of account was used to value cereals and grain.

Table 9.3 is a translation of the original account (not re-produced here). In the monthly accounts the grid pattern was used, with the grid itself, the numbers entered and the relevant descriptions made in a combination of black and red inks. The original account, a simplified version of which is translated in Table 9.3, is divided into twenty-one vertical columns and thirty-six horizontal lines (Posener-Kriéger and Cenival, 1968: Plates XXXIV and XXXIVA). The horizontal lines were classified such that lines 1–6 contain the headings of the account while lines 7–36 were allocated one for each of the thirty days of the month to record temple income. The thirty days of the month were grouped into three ten-day weeks (ten black lines) separated from each other by a horizontal red line. After providing space on the grid to indicate the precise date of the month for which entries were being made, a number of sections were devoted to recording activities. Each of the sections relating to temple revenues invariably has three columns, the first recording in red the quantities expected to be received, the second recording in black the actual quantities delivered, and the third showing in red the balance outstanding. These examples together show how the ancient scribes made judicious use of different colour inks (namely black and red) to order and visualize more clearly sections, entries, categories or numerals.[10] The grid also shows the sources of each delivery (bread, beer, good things, etc.) and the names of the persons responsible for its transport.

Further, the account shows, for every day of the month, the quantity of each type of good (e.g., different varieties of bread, beer, flour, and drinks) delivered to the residence. For example, the amount recorded in red of 14 units of *pat*-bread due per day for the first five days of the month from the palace is also recorded in black as actual deliveries (70 units) on day 5. In contrast, the amounts recorded in red of the same type of bread as due for the next six days (days 6–11) were not received in the solar temple of Re during the month, and hence were entered daily in red as balance outstanding. In total, of the quantity due of this type of bread for the whole month, only the deliveries of 19 days were received, leaving as remainder the dues for 11 days. The same pattern is repeated for other items such as ‘good things’ and the bread and beer brought from the palace. None of the four deliveries of the ‘good things’ due was actually made, and only the bread and beer dues of seven days were delivered leaving the dues of 23 days as outstanding balance.[11] Precisely how the administrators of the temple dealt with significant shortages in supplies is not made clear in this account, but this will be considered later.

Table 9.3 Monthly Income Account: The Abusir Papyri*

name											the altar of Ra			in crates		
of the	through deliveries sent to the residence						name of the	brought from the palace			in the solar temple					
porter	jars of *sekhpet*-drink	jars of beer	jars of flour	*beset*-bread	*pesen*-bread	*hetja*-bread	place of origin	*ida*-bread, *padj*-bread, *hetja*-bread, *pesen*-bread, beer			consignments of *pat*-bread			good things		
											balance	delivered	amount due	balance	delivered	amount due
								18		18			14			
temple								18		18			14			
employees		3		1	1		estate of Kakai	18		18			14			
									18	18			14			
	1	1	1	1	1	1	Iu-Shedefwi		18	18		70	14			
									18	18	14		14			
Ni-Ankh-Kakai		3		1	1		estate of Kakai	18		18	14		14			
								18		18	14		14			
Ni-Tawi-Kakai,		3		1	1		estate of Kakai	18		18	14		14			
son of								18		18	14		14	10		10
Hatu		1		1	1	1	Djed-Sneferu		36	18	14		14	10		10
										18		14	14			
								18		18		14	14			
								18		18		14	14			
								18		18		14	14			
		3		1	1		estate of Kakai		36	18		14	14			
										18		14	14			
								18		18		14	14			
								18		18		14	14			
										18		14	14	10		10
										18		14	14	(10)		(10)
										18		14	14			
Ni-Tawi-Kakai	2 haunches of beef		4 fowl		100	(?)	brought from the altar of Ra			18	(14)		14			
										18	(14)		14			
	mixed			mixed						18	(14)		14			
brought by	30			30			solar temple			18	(14)		14			
boat										18		14	14			
	1	1	1	1	1	1	Iu-Shedefwi			18		14	14			
										18		14	14			
										18	14		14			

*Source: B.J.Kemp, *Ancient Egypt: Anatomy of a Civilization*. London: Routledge, p.118.

The left-hand side of the account details daily deliveries sent to the residence, the sources of their origins, and the names of the porters responsible for their transportation. Three different types of bread are identified, and there are also deliveries of flour, beer, and a particular drink. Further, the grid shows deliveries of meat, fowl, and mixed, unspecified, items. Presumably because these latter items did not occur sufficiently frequently, the scribes did not designate special headings for them at the top of the account as in the case of the more frequent items.

Various measures were used in the accounts depending on the type of goods or foodstuffs recorded. Drinks, beer, and flour were measured in jars, presumably of a standard capacity. Meat was quantified in haunches and bread was counted in numbers of loaves. No indication is given in the accounts of the fowl delivered, whether they were of the same type and size, or a combination of different types such as ducks, geese, and other birds. If fowl belonged to different types, no attempt is made in the entries to equate their nutritional values. When different daily accounts are inspected, it appears that the levels of theoretical revenues or income due to be delivered vary but without a clear indication as to why these variations occur or who authorised them. Posener-Kriéger (1976: 626) has surmised that, because these theoretical figures of revenues were known in advance to the scribes, it is likely that they were subject to modifications to reflect circumstances.

Entries in the daily accounts recorded the day of the week, the place to which deliveries should be made (for example, the residence, or the solar temple of Re, *St-ib-R'*), the quantities of a particular item to be delivered (e.g., bread of different types), and the name of the porter delivering items. Other daily accounts detail amounts of different commodities to be delivered to named individuals (also differentiated by rank or function) as rations (ibid: 317–319). One of these daily accounts (3rd day, month of *Shomu*, Harvest or Summer season) records the distribution of meat, whereby the lector priest and the meat porter each receives the same allocation of two measures/units, compared to the *wab* priest who receives twenty measures (ibid: 322), thereby pointing to the variability of rations according to title and status.

Another category is the grain accounts, typically measured in *hekat* (76.88 litres) as money of account, which shows amounts to be delivered to the temple, actual deliveries, and balance remaining.

Table 9.4 details the grain accounts of two types: *Ble* and *Ph3* and, by way of demonstration, I will concentrate only on the former. Of the total amount of 60 *hekat* of *Ble* grain that should have been received, only 57.5 *hekat* were delivered, leaving a remainder of 2.5 *hekat*, which is not recorded in the account. Responsibility of the intermediate receiving institution was restricted to the quantity of 57.5 *hekat* that it had actually received. Against this amount, there is a total allowance of 3 *hekat* (2.25 + 0.75) expenditure presumably for feeding livestock and fowl, leaving 54.5 *hekat* listed as the real/actual remainder. Of that quantity 50.5 *hekat* were delivered to the temple, leaving 4 *hekat* in arrears as shown in the account.

Table 9.4 Grain Account (41, C 2)*

Year 21, fourth month of *Akhet*, day 22, Account of grain deliveries of *Ble* and *Ph3*

		Ble	***Ph3***	
Amounts to be received	:	60 *hekat*	60 *hekat*	
Deliveries of replenishments	:	57.5 *hekat*	0	
Nine small livestock	:	2.25 *hekat*	0	29
Assortment of fowl	:	0.75 *hekat*	0	28
Total of expenditure categories	:	3 *hekat*	0	
Real/actual remainder	:	54.5 *hekat*	0	
Deliveries coming to the temple	:	50.5 *hekat*	0	
Arrears	:	4 *hekat*	0	

* *Source*: translated from Posener-Kriéger (1976: 329)

Table 9.5 Grain Account (50, 1 a&b)*

….. Day 24 (+?)
Receipt of the goods coming from the Residence
Account a
Domain < The house of
Horus *St-ib-t3wj*
(conscript) *gs*…>

	Domain < The house of Horus *St-ib-t3wj* (conscript) *gs*…>				The house of the king			
	Amount	Deliveries	Remainder	small boat	Amount	Deliveries	Remainder	small boat
Ble	30 *hekat*	30	0	0	30	30	0	0
				Bread				
Ph3	30 *hekat*	28.5	?	1.5	30	28.25	0	1.75

Account b
Were placed in 20 recipients of Sed
taken to the granary
of *St-ib-R'*

	The last day of the month	the first day	the 3rd	the 9th
Ble	4 *hekat*	6 *hekat*	10 *hekat*	10 *hekat*

* *Source*: translated from Posener-Kriéger (1976: 332)

Account 50, 1 a and b (Table 9.5) links up neatly with the account in Table 9.4, showing the expected theoretical delivery of 60 *hekat* for each of the two types of grain; *Ble* and *Ph3*. Apart from 60 *hekat* of grain expected to be delivered from each source, in the case of *Ph3* there is an allowance for the cost of transporting grain across the river in the small boat of the amounts 1.5 *hekat* and 1.75 *hekat* (in total 3.25 *hekat*).

These two accounts embody some important attributes from the perspective of ordering human accountability. First, the receiving institution is held responsible for what it can control; in each case, the institution is charged with the amounts of specific goods it had *actually received*, rather than the amounts it should have received. Second, expenditure allowances (animal feed and transportation cost) were stated clearly and deducted from actual deliveries before calculating the final amounts for which an institution was held responsible. Third, the balance outstanding (remainder between amounts charged to and received from each institution) signalled the indebtedness of the institution to other institutions or the state. Fourth, each account specified the appropriate dates and places thereby ordering accountability both temporally and spatially.

The accounts of the Abusir Papyri were inscribed in a way that obeyed the canons of the ancient Egyptian accounting craft. This included the use of a noun-dominated, technical vocabulary to demarcate or explain individual entries (see Chapter 2). Hence, like all the accounting inscriptions discussed in this book, the Abusir Papyri were not intended to impress as exemplary literary works but rather as concise, parsimonious, technical inscriptions. As Posener-Kriéger and Cenival (1968: xiii) argue, "No explanatory passages or glosses occur in the texts; they were not necessary, for the documents were drawn up for or by the temple attendants who were well acquainted with the circumstances in each case." Such texts may be considered of little interest, or may be treated, as "texts of accounting fanatics or ardent admirers of lexicography" (ibid: 134). Yet, it is in this seemingly less imaginative style of inscription, and apparently less reader friendly grid format that "the daily life of the temple is revealed [I prefer 'constructed'] . . . scenes of the duties of the temple personnel . . . all sorts of accounts, the sorts which give us a rich and diverse documentation, totally trustworthy, whose power of evocation is hardly comparable" (Posener-Kriéger, 1979: 134). These accounts are canonized cultural texts (Assmann, 2006), and they are also a conscious archive of discursively constituted events (Foucault, 1972), and a connective cultural memory for the ancient Egyptians of that time. The use of different colour ink, lines in grids, headings and numerals made it easy to differentiate individual entries[12], although being 'totally trustworthy' as mentioned in the preceding quote implies mirror image representation of reality that denies the constructive power of accounting, an attribution from which the arguments offered in this book depart.

DISCUSSION

"[T]he Abusir Papyri . . . reveal the major role of the residence in the economy of the Country and underscore the excellence of an active and effective administration which, thanks to competent scribes and conscientious accountants, made possible the greatness of the Ancient Empire." (Posener-Kriéger, 1979: 150).

The aim of this section is to explore the implications of the accounts of the Abusir Papyri and to shed further light on how accounting inscriptions ordered the cycle of supply and redistribution in funerary temples. It also comments on the extent to which accounting underpinned the view of the temple as the locus of interaction between the domains of the sacred and the profane. Typically, pious foundations were established to furnish the temple with supplies. As Kemp (1989: 112) observes "[t]he receipt of income and distribution of rations set in motion its own little administrative cycle. Although the income could be supplied by the palace of the living king, a measure of security was obtained by establishing a pious foundation in perpetuity. This consisted essentially of agricultural estates, the income of which was directed to the support of the staff maintaining cult and fabric at the pyramids."

Tables, Lists, and Accounts

The duty tables and inventory lists were distinguished by two characteristics: economy/ clarity of text (*organizational ordering*) and precision of information content (*technical ordering*) that constructed and underpinned the arrangement of the activities of the funerary temple. The visual ordering of the text, using the grid format and a combination of black and red ink, made it easy to trace a particular entry or to focus upon a specific task, individual, or item. The location of a particular entry in a specific cell could be identified unambiguously by moving across the grid both vertically and horizontally. By recording the damage to a particular item in the inventory list using red ink against a black ink background, the damage was made more visible than if only one colour was used throughout the list. Concerning technical ordering, two techniques were used. The first was the quantification of the tasks to be performed, the number of items involved and designation of the individuals or phyles responsible. The second was the use of a taxonomy employing a carefully thought out hierarchy according to which items were ordered by grouping them in a descending manner beginning from the broadest through the intermediate to the finest classification. A damaged item could therefore be traced in its individuality and to its broader category. These entries were underpinned by the desire to assign clear responsibilities to the departing phyle at the end of its term and to ensure that the incoming phyle began its work with a clean sheet. Inscriptions from later periods suggest that the entries made by the scribes in such inventory lists were complemented by a twin-reporting cycle: one performed by the departing phyle indicating the inventory of the tools and items that it had left behind and their condition, and the other by the incoming phyle indicating the state of inventory it had received (see Parkinson, 1991: 89). The twin-reporting cycle by the two phyles squared the cycle of this ancient method of accountability. By recording damage details, it was possible to identify and plan repair work required in time before the arrival of the new phyle. The single and double audits conducted for inventory items discussed earlier reveal a keen interest by the scribes in seeking to keep tight control over inventory.

In the weekly and monthly accounts, the ordering of entries via *organizational ordering* and *technical ordering* was observed, and in addition a chain of relations organized via *dependency ordering* was emphasized to engender yet more order. *Dependency ordering* is examined here, but now a brief comment on the first two types of ordering is made. The judicious use of red ink to differentiate expected deliveries and balances and black ink to record deliveries, combined with the use of a grid format made it easy for the scribes to identify specific entries and possible shortages in deliveries. The separation of ten-day weeks from each other using red horizontal lines separated the individual weeks of each month from each other, and the black horizontal lines clearly delineated each specific day of the month. The naming of the persons making the deliveries, the sources of each delivery and the institution to which each delivery was sent identified unambiguously the centres of responsibility at each stage of this supply/distribution cycle. Finally, as the date and place of each entry were recorded, the entries were designated and therefore ordered spatially and temporally. A form of ancient ordering system based on time-space zoning was therefore embodied in these accounts.

The Cycle of Temple Supply and Redistribution

What do the daily and monthly temple income accounts in the Abusir Papyri tell us about the ordering of the economic cycle of supply and redistribution and the daily activities in the funerary temple of Néferirkarê-Kakai? There are at least two pertinent observations (see also Posener-Kriéger, 1979: 139). First, the funerary temple received supplies on a daily basis, implying not only that foodstuffs were fresh for immediate consumption, but also that the temple was totally dependent upon external supplies for survival. The funerary temple itself possessed very little, if anything, of the foodstuffs required for maintaining its activities. A small boat brought in these fresh supplies daily. Second, the two main sources of regular supply of basic foodstuffs were the solar temple and the palace of one of Néferirkarê's successors to the throne (see Table 9.3). Surprisingly, the main source of supply expected in such circumstances (the pious foundation based on agricultural estates; see Kemp, 1989: 112) is conspicuously absent from the accounts. In noting the same discrepancy, Posener-Kriéger (1979: 139) points to the existence of these estates for Néferirkarê:

> "We know, in fact, that these estates still existed when the majority of the documents that we have were written, because the state tomb employees who are contemporary to the Abusir Papyri counted these estates among the provision sources for their own offering tables. We

> also know from a more indirect source in the form of the names of the staff of the funerary temple some of whom carried the names of Néferirkarê's known estates, . . . [that these estates] were dedicated to the maintenance of the royal cult. Yet, none of these documents appear in the Abusir Papyri as a direct or indirect source of the supplies used in the temple."

These observations raise questions concerning the economic status of two sources of supply for Néferirkaré's funerary temple: the solar temple and the palace of his successor. Solar temples were built by Néferirkarê's predecessors, but their precise role eluded Egyptologists until a few decades ago. Posener-Kriéger (1979: 140) refers to the work of Erich Winter who showed that solar temples were not holy temples dedicated to the cult of Re (the all-important Sun-God), for if this were the case then we would not have found different solar temples for different Pharaohs but rather a main solar temple expanded by subsequent Pharaohs. Winter argues that these solar temples were linked to the funerary cults of the deceased Pharaohs. Posener-Kriéger (ibid: 140) points out that the Abusir Papyri decisively support Winter's views:

> "because they show that the funerary temple and the solar temple form an inseparable ensemble and that, of the two royal sanctuaries, it was not the funerary temple which was the most important, but rather the solar temple because, economically at least, the first only constituted an annex of the second, however it was a necessary and even an essential annex, since it was in the pyramid that the body of the deceased king was buried."

Hence, the solar temple was an important economic entity aimed at provisioning the funerary temple. But what does this say of the nature of activities undertaken in the solar temple of Re? The accounting entries in the Abusir Papyri show that the solar temple was not a production unit but a conduit for the receipt and distribution of foodstuffs. The sources of these foodstuffs that were brought to the solar temple and recorded in many of the accounts point to another unit upon which the solar temple depended: the 'estate of Kakai' (*R3-s-K3ki)*. This unit was not an agricultural estate; rather, it seems that it worked as a conversion unit making foodstuffs (ibid: 142), for example, converting flour and grain into bread and beer. The 'estate of Kakai' then supplied the solar temple and the latter, in turn, supplied the funerary temple.

The residence was another source of supply for the funerary temple. The manner in which the residence and the palace are mentioned in the accounts suggests that they were probably two different, but closely linked, entities belonging to the royal domain of the ruling Pharaoh. It seems likely (Posener-Kriéger, 1976: 620) that the palace was not only a royal residence, but also had various government offices, workshops, and storerooms. The residence controlled large quantities of the foodstuffs required for the funerary temple and in difficult years it was able to regulate the consumption of the temple with supplies from the Treasury. As evident from Table 9.3, the deliveries sent from the residence or the palace to the funerary temple of Néferirkarê were rather modest, amounting to a few jars of beer or drink and loaves of bread. Moreover, the same account shows that the residence drew its supplies from the estate of Kakai at the rate of four deliveries per month, the estate of Iu-Shedefwi and the solar temple of Re each twice per month, and the estate of Djed-Sneferu once per month. Other accounts show small deliveries coming from the Meydoum Pyramid and the estate of Cheops. But the estate of Iu-Shedefwi and the Meydoum Pyramid were situated in Upper Egypt, a long way from the location of the funerary temple of Néferirkaré in Lower Egypt.

It is quite inconceivable that such small quantities of fresh bread and beer could have been sent all that distance from Upper Egypt to Lower Egypt. There are two possible explanations. First, the deliveries were grain which was later converted into bread and beer. Posener-Kriéger (1979: 143) argues: "[w]ithout doubt, the load was one of grain; the bread and beer were made from the grain delivered to the residence and, when the supplies reached their final destination, the scribes could register them accurately as bread of a given type and quantity, from the residence, originating from a given place." Precisely where the grain coming from the Meydoum pyramid and the estate of Iu-Shedefwi was converted into bread and beer is not clear, but this may have taken place in the estate of Kakai. This interpretation reinforces the close relationship that linked all these different economic and administrative units: the supplying estates, the estate of Kakai, the residence/palace, the solar temple, and the funerary temple. Indeed, Posener-Kriéger (ibid: 146, 634–644) suggests that it is unlikely that even the residence, or palace, made its deliveries in the form of bread and beer but rather in the form of flour which was transformed into bread and beer in the estate of Kakai. Various accounts in the Abusir Papyri show that the residence did not only become involved in regular supplies, but also made special deliveries for festivals. When shortages in regular supplies were encountered, further supplies were ordered.

Second, entries relating to distant estates and entities were purely balancing entries not reflecting actual deliveries of goods to the funerary temple.[13] This implies that the funerary temple and the various estates and entities were inter-linked via a cycle of inscribed debits and credits. Instead of the goods being sent all the way from these institutions to the distant funerary temple, they could have been exchanged between institutions in close geographical proximity with the temple scribes merely using accounting entries to record distant exchanges in terms of their effect on the funerary temple.

We can never be certain that either explanation is correct. Nevertheless, two important implications pertaining to order emerge. First, a chain-like organization of supply and distribution units were developed, suggesting that although the scribes differentiated these units in terms of production, distribution, and consumption they linked them inextricably through a chain of dependency relationships that was ordered, managed and monitored through the inscription of detailed accounts. Second, it seems that the accounting entries dealing with distant deliveries reflected a level of original thinking by the scribes, where the inscriptions were purely balancing entries rather than reflecting actual matching of the physical goods they recorded. These goods may not have moved in the precise physical condition described by the accounting entries. Even if this interpretation is only partly correct, we are here confronting a possibility where the ancient scribes thought of accounting in more abstract terms, thereby going beyond the simple view of accounting as the mirror-image reflection of a concrete reality ‘out there’. The seeds of abstract thinking may have been sown then, one that sees the role of accounting inscriptions as something that constructs a notion of reality that is significantly different from what is perceived as the concrete and objective.

The details of the entries in the daily accounts also give rise to another question: how were the supplies coming from such diverse sources ordered and organized from an administrative and accounting perspective? If the residence/palace had to provide supplies to many funerary/solar temples, such as those of Néferirkarê, throughout Egypt on a daily basis, this would have created serious logistic and administrative difficulties. The summary monthly accounts, however, provide a clue as to how this challenge was dealt with: total monthly deliveries were issued from the residence, and the solar temple received the amounts of provisions needed for its own staff as well as the supplies required by the funerary temple, with each delivery carrying a label stating its source. Large storage sites, which were located at the residence rather than at the solar temples, were organized in such a way that supplies of the same type were differentiated by source. Deliveries from the residence to the solar temple would therefore have been made in the form of grain or flour, rather than as bread or beer. Thus, the supplies of the same type of provisions were differentiated by original source in order to avoid confusion when recording the revenues received.

Hence, the residence played a major role in supporting and co-ordinating the economic fabric of the funerary temple. Further, an intricate web of relationships linked together suppliers, intermediaries, and consumers. The precarious balancing of supply and consumption was the responsibility of key co-ordinating conduits, such as the residence and the solar temple, supported by the scribes. This *dependency ordering* relationship, as *visualized* through accounting, is shown below.

Reading from left to right, Figure 9.1 shows a reconstruction of the grain redistributive system carried out in mortuary cults. Supplies from different sources (e.g., different estates) were sent to the residence. The

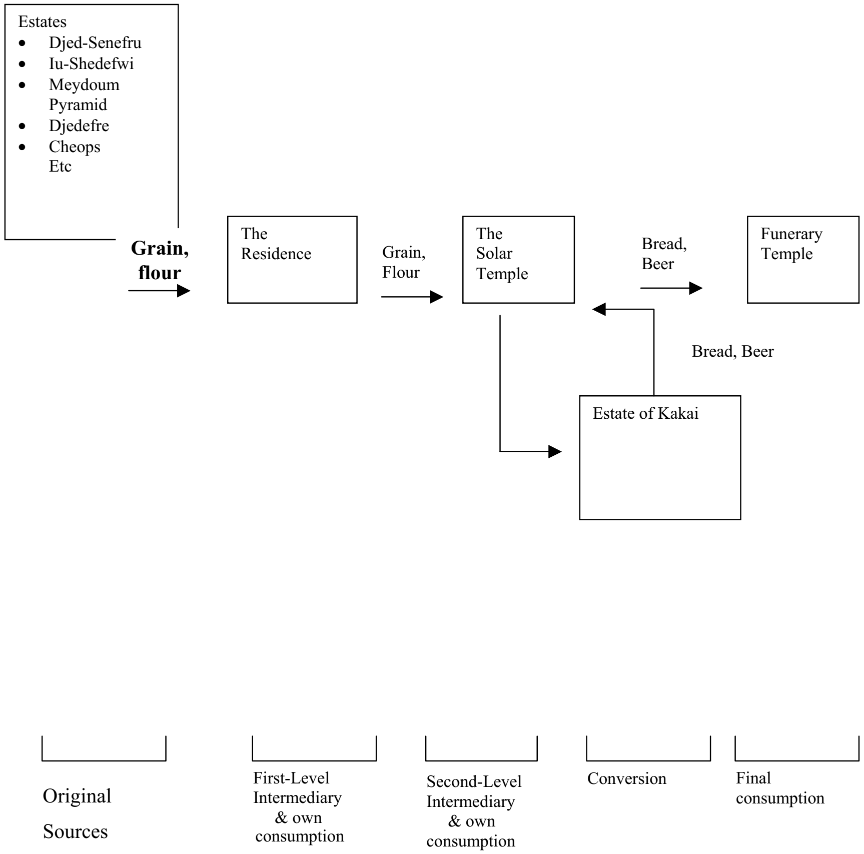


Figure 9.1 Ordering temple redistribution.

scribes at the residence recorded these incoming revenues and differentiated them by source. The residence kept the quantities allocated to the Palace and its dependants. It also sent to the solar temple the grain provisions allocated to the funerary cult (for both the solar and funerary temples). The solar temple recorded the grain quantities differentiated by source of supply and sent them to the estate of Kaki which converted them into the requisite quantities and types of breads and beers and sent the finished products back to the solar temple. The solar temple kept its own share and sent the due allocations of bread and beer to the funerary temple. Given the recording of the original sources of supply, the scribes were able to credit a given source with the right quantities of bread and beer. In addition, deliveries of fowl, meat, and fabric were sent from the residence to the temples for consumption on temple premises in accordance with the authorised quantities.

This reconstruction suggests a web of interdependencies in which a significant measure of order was present. Numerous calculations and entries were made virtually at every stage by the scribes, hence the intervention of accounting ordered the functioning of this administrative system and the relationships between the institutions involved in the supply-consumption chain. Accountability could be traced from the final consuming unit (e.g., the funerary temple) through the final administrative conduit (the solar temple), the transport staff (the porters), and the first administrative conduit (the residence), to the original source (e.g., the individual estates). Yet, notwithstanding this detailed chain of accountability, one important link is missing, that of controlling the productive activities of the estate of Kakai. The surviving accounts show no evidence of control over the conversion process that took place in that estate. The absence of such evidence leaves open the question of whether or not the conversion activities relating to the funerary temple of Néferirkarê were accounted for.

Once an administrative machinery, such as that of the Old Kingdom, is in place, with accounting as an important part of its ensemble of ordering technologies, it is likely to extend its purview across the economic, social and spiritual domains:

> "A developed bureaucratic system reveals and actively promotes a specific human trait: a deep satisfaction in devising routines for measuring, inspecting, checking, and thus as far as possible controlling other people's activities. It draws upon a particular aptitude, as distinctive and important for a society as the genius of its artisans and architects, or the bravura of military men. We call a member of this class a 'scribe' . . . Where most are illiterate, the writing man [the scribe] holds the key to the power that administration bestows." (Kemp, 1989: 111)

Kemp's quote is insightful. For the preceding analysis points to how the administrative machinery of the Old Kingdom managed to extend its ordering capabilities to the domain of funerary temples. The scribe, not only as the 'writing' person, but more importantly as the 'calculating' person, held the keys to the power that this administrative machinery bestowed. A new set of administrative and accounting inscriptions were articulated upon the space of the temple, its providers, mainly in the forms of different estates, and its benefactors. From the perspective of the Egyptian economy, the intervention of accounting and administrative practices constructed the temple as an economic institution and the priests as economic agents. The domain of the temple was invaded by the scribes and administrators seemingly to fulfil their satisfaction "in devising routines for measuring, inspecting, checking, and thus as far as possible controlling other people's activities" as important stages of the ordering of economic life. But this line of argument, despite its merits, privileges rational economic reasoning and marginalizes, or even totally ignores, social, political, and religious concerns which are shown in this book to be of major importance. Most accounting studies of religious institutions, mainly churches, have also been concerned with rational economic arguments at the expense of other explanations. These studies have been concerned to explore issues relating to the economic rationales of the intervention of accounting for measuring and allocating resources, and as a system of human accountability in these institutions (Flesher and Flesher, 1979; Swanson and Gardiner, 1988; Booth, 1993; Duncan et al., 1999; Lightbody, 2000). In contrast, the study by Quattrone (2002) is one of the few exceptions that offer explanations that are consistent with those explored in this book. Quattrone goes beyond rationalistic tendencies by suggesting that accounting and accountability practices in the Society of Jesus in Italy (XVI–XVII centuries) were tightly linked to the absolutist ideology of the Roman Catholic doctrine of the Counter-Reformation.

The evidence from the Abusir Papyri, and from earlier sources beginning with the Third Dynasty, testifies to the interventionist power of accounting inscriptions in ordering institutional relationships. The organization, co-ordination, and monitoring of activities was underpinned by three forms of ordering: organizational; technical; and dependency. A scheme was developed whereby administrative units were created and linked closely to existing economic and religious entities via a network of interdependence to support temple activities and ensure the matching of supply and demand. Work in the temples, such as rebuilding, expansion, repair and maintenance was planned and allocated to specific individuals or groups (phyles). These duties were inscribed to mark the details of human responsibility, and work was checked regularly against expected performance. Temple objects, whether of a permanent or a perishable type, were recorded in inventory lists, detailing the nature of damage to every item, using a taxonomy which incorporated a hierarchy of different classifications. Recording items using a combination of black and red ink in a tabular format (*organizational ordering*), and the enumeration of quantities of items and the classification taxonomy (*technical ordering*) made it easy for the scribes to signal damaged items and the type of damage. Apart from legitimizing the role of the scribes in demonstrating their centrality to ordering the activities of the funerary temples, this would have made it possible to both trace responsibility for damage to the appropriate (departing) phyle and to plan the repair of damaged items in time for the arrival of the new phyle.

Concerning provisioning for the funerary temple, a most intricate redistributive scheme was developed, underpinned by accounting inscriptions. The overall scheme was one in which various estates supplied pre-specified amounts of grain and flour to the residence which recorded them by type and original source, took its own allocation and supplied the remainder to the solar temple. The solar temple sent the grain and flour to the estate of Kakai which converted them into bread, beer, and other types of drinks, and handed the final products back to the solar temple which took its own provisions and gave the requisite rations to the funerary temple. In this elaborate distributive system, the scribes could trace a particular delivery to its exact amount and original source with this *dependency ordering* being enshrined into the accounting entries. Through the use of a grid system and the judicious combination of black and red ink the scribes could differentiate between amounts due as revenue, actual quantities delivered and remaining balance. Accounting also played a key role in determining the precise allocations and delivery of provisions to every member of temple staff. Accounting inscriptions therefore constructed this redistribution chain, institutionally ordering and bonding religious entities (the funerary and solar temples) with administrative entities (suppliers, the residence, and the producing estates) into an economic, social and religious unity. In this way, accounting inscriptions rendered visible, and hence amenable to human intervention, the activities that took place within and outside the temple complex.

Accounting inscriptions were also implicated in reality construction. Whether the goods recorded as having travelled from the South of Egypt to the funerary temple in the North were actually exchanged in other forms (e.g., grain instead of bread) or exchanged hands in their natural forms between most entities in the South, a basic understanding of accounting technologies as something that can be abstracted away from the activities they inscribe may have already been appreciated by the ancient scribes. Also, accounting intervention constructed the priests into agents of the dead; priests were not only expected to honour the contractual arrangements governing their management of temple endowment, but were also enticed to take action against fellow priests found guilty of opportunistic behaviour. These findings show just how easy it is to conceptualize accounting technologies as indispensable to the reconstruction of relations both *within* and *outwith* the boundaries of specific institutions, in our case funerary temples. As other scholars (e.g., Hines, 1988) have observed in more contemporary contexts, in representing reality, accounting reconstructs reality.

These implications concerning the intervention of accounting in temple activities can be seen to bring a worldly, and a profane dimension to the apparently otherwise spiritual and sacred domain of worship and preservation of the cult of the dead. Yet, we should note that in ancient Egyptian society life in 'this world' and life in 'the other world' were seen as parts of the same phenomena merged into a super cosmic order, contra the interpretations of the views of Durkheim (1976) and Eliade (1959) that emphasize the use of binary categories to demarcate clearly the sacred and the profane domains. Indeed, what have come to be recognized in contemporary society as the mundane and profane matters of writing and accounting were in the world of the ancient Egyptians considered to be gifts received from the gods. For the ancient Egyptians accounting was sacred and divine, an important technology that linked inextricably their two life worlds (see also Chapter 4). This interpretation gains greater credence once the role of accounting in the temple is linked more explicitly to the godly dimension of kingship. Inability to secure regular supplies for, and continuing work in, the funerary complex would have meant failure to preserve the cult of dead Pharaohs and to do *Maat*. By organizing patterns of supply, determining rations and distribution, recording the movement and status of objects, monitoring temple work activities, and assigning responsibilities, accounting inscriptions served to ensure the preservation of the cult of the dead Pharaoh. The seemingly profane intervention of accounting can be seen as part of a much wider and holistic concept of divinity. More research on the linkages between accounting and religion is likely to speed up the breakdown of the sacred/secular divide in the conceptualization of accounting. Further work on the dissolution of the sacred/secular divide in theorizing accounting promises to be both intriguing and challenging.

Rather than tease out the significance of accounting technologies from a careful examination of social, political, and economic contexts, as scholars dealing with the present or recent past are able to do, what has been attempted here is more or less the reverse: to tease out an account of a tapestry of life in ancient Egypt from accounting inscriptions. That such a tapestry, crude as it may be, can be constructed at all is a testimony to the constructive and performative power of accounting inscriptions. More research is needed to further develop our appreciation of such power and performativity. The ordering by accounting of the organizational, technical, and interdependency relations of the activities undertaken in funerary temples and the attendat performativity discussed in this chapter has parallels in the intervention of accounting in numerous other organizations and societies, both ancient and contemporary. Any future theorizing of accounting requires a further development of these types of orderings and the special attributes and powers of reality construction that render accounting inscriptions performative of order in society.

10 Accounting for Mining Expeditions

The aim of this chapter is to expand our understanding of the relationship between accounting and order by exploring yet another domain of the economy; that of mining. Mining was an important activity throughout the history of ancient Egypt. While mining took place mainly within what were then considered the legitimate borders of Egypt, security was a major issue once expeditions ventured away from populated areas into the desert. Moreover, mining represented a major problem of control given the vast geographical distances that separated the location of the mines from population centres and the length of time it took for an expedition to complete its tasks. Concern was paramount for order from *without*, in terms of the safe passage of the expedition through its travels, and for order from *within*, that is, securing high levels of work discipline and harmony among expedition members. The need to appoint competent and loyal expedition leaders meant that they were typically individuals of high rank in the Pharaoh's administration who were highly trusted and were held responsible directly to the Pharaoh. Naturally, this was a necessary, but not a sufficient condition, for the success of the expedition; employing appropriate accounting and administrative technologies was just as essential hence the important roles of the scribes and their craft in mining activities.

The analysis in this chapter draws mainly upon inscriptions from mining activities undertaken during the Middle Kingdom (2040–1640 BCE). While Old Kingdom (2575–2134 BCE) material on mining expeditions is useful in shedding light on accounting and order, its level of detail is rather restrictive. In contrast, accounting inscriptions for mining from the Middle Kingdom provide sufficient detail to allow a deeper exploration of the relationship between accounting technologies and order. This chapter examines initially accounting and administrative inscriptions concerning the Sinai mining expeditions, proceeding with the inscriptions of Wadi Maghara followed by those of Serabit El-Khadim. The chapter also examines administrative and work titles recorded in these inscriptions. The analysis notes the variety of roles played by accounting inscriptions, ranging from those that relate to monitoring and control of mining activities, through those concerned with the determination of rations and their distribution among members of the expedition, to inscriptions that have strong symbolic and ceremonial nature such as those of funerary offerings. The discussion underscores the significant expansion and proliferation of administrative and work titles in the Middle Kingdom compared to those of the Old Kingdom. Thereafter, the chapter examines the accounting and administrative inscriptions of expeditions in Wadi Hammamat in order to explore the extent to which the technologies evident from these inscriptions persisted across different geographical parts of the country with some differences noted. On the one hand, the inscriptions appear to be more complete compared to those of Sinai in that they chart carefully the full cycle of the expedition from beginning to end, with the dating of activities being more detailed by referring to the year, month and day rather than only the year in which the expedition took place. Moreover, a few inscriptions from Wadi Hammamat detail precise wages or rations differentiated so clearly across different occupations. On the other hand, the provision of a full roster indicating the individual names and titles of every member of the expedition noted in the Sinai inscriptions gives way to a more compact form where only the total number of the whole expedition or the numbers of personnel in different occupations are provided. Finally, the implications of these differences for ordering mining activities are considered.

REACHING HIGH INTO THE MOUNTAINS: THE SINAI EXPEDITIONS

Mining activities in Sinai were concerned with the extraction of turquoise, and to a much lesser extent, copper (Breasted, 1906/1988; Lucas, 1962/1988; Gardiner, Peet, and Černý, 1955; Baines and Malek, 1980). The mining sites listed in the surviving inscriptions relate mainly to two major areas both located in the south west of the Sinai peninsula, specifically at Wadi Magharah and Serabit El-Khadim.

Turquoise was known in ancient Egypt from pre-historic times, and was used throughout history as inlay in jewellery and for making beads (Lucas, 1962/1988). The mines were cut either by flint chisels or copper chisels. The work areas ranged from 20 to 40 square yards, the broken rock was sifted through, and the pieces collected in the sieves were checked in order to ascertain whether or not they contained turquoise. Surviving inscriptions from Serabit El-Khadim offer a continuous record stretching from the beginning of the Twelfth Dynasty (1991 BCE) to the reign of its last great Pharaoh, Ammenemes IV (or Amenemhet IV, 1799–1787 BCE). Many of the inscriptions found at both sites contain religious, accounting and administrative inscriptions.

Accounting and Order in Wadi Maghara

The Middle Kingdom inscriptions uncovered in Wadi Maghara are significantly smaller in number and detail compared to those found in Serabit El-Khadim. There are two possible reasons for this. First, the Wadi Maghara mine was very important during the Old Kingdom when inscriptions concerning mining activities were very sparse. By the advent of the Middle Kingdom, especially by the beginning of Dynasty Twelve, the importance of Wadi Maghara declined and Serabit El-Khadim became the main turquoise mine. For the scribes of the Middle Kingdom with their passion for detailed inscriptions, Serabit El-Khadim offered a green field site for the use of more numerous and detailed accounting inscriptions. While this argument seems more than plausible, there are a few puzzling issues. In particular, as shown here, some of the expeditions to Wadi Maghara during the Middle Kingdom were extremely large, which suggests that these mines were of some importance. This leads to the second possible reason: the scribes accompanying the expeditions to Wadi Maghara may have continued with the tradition of their predecessors in providing little detail in their inscriptions.

The administrative/accounting inscriptions from Wadi Maghara recorded three things: (1) the labour force; (2) turquoise activities; and (3) funerary offerings related to expedition members.

(1) Inscriptions of the labour force

An inscription on a rock table dating to year 2 of the reign of Ammenemes III (1844–1797 BCE) states:

> "Year 2 under the majesty of the king of Upper and Lower Egypt Nema're', son of Re', Ammenemes, living for ever and ever. The god's treasurer, chief intendant of the Treasury, Khentekhtayhotep-Khnomsu was sent in order to fetch turquoise and copper. Number of his force, 734." (Gardiner, Peet, and Černý, 1955: 66)

That this inscription is so general is characteristic of many of the inscriptions from Wadi Maghara. The inscription simply contains some basic information; the name of a high official, Khentekhtayhotep-Khnomsu, presumably the leader of the expedition; the purpose of the expedition (to fetch turquoise and copper) and the total number of personnel under his command (734). In this inscription, no details are given concerning quantities of turquoise or copper as a target for the expedition; simply it had to "fetch turquoise and copper". Similarly, the inscription says nothing about the composition of the expedition, in terms of classifying the 734 persons by occupation, nor are these persons listed individually by name, as was the practice in the expeditions to Serabit El-Khadim (see the following). Further, the inscription does not provide any details of the length of the expedition duration or the precise day and month of its start but only the year. Presumably, the expedition was meant to last for as long as was deemed necessary to ensure mining the appropriate quantities of copper and turquoise (which are not specified but may have been agreed upon in advance). But then what of the food provisions needed for the expedition over this apparently indeterminate period of activities? It may be that this type of inscription was intended to be purely ceremonial, rather than administrative. From the perspective of accounting control, it is evident that these inscriptions offer only a meagre content. We will see how this extremely brief form of inscription was significantly enlarged and made far more detailed when dealing with similar inscriptions from the mines of Serabit El-Khadim.

(2) Reporting on Turquoise Activities

Reporting on mining activities was also sparse, as evidenced in an inscription from year 30 of the reign of Ammenemes III; some 28 years after the expedition (Gardiner, Peet, and Černý, 1955: 68):

> "Year 30 under the majesty of the king of Upper and Lower Egypt Nema're', living for ever and ever. The god's treasurer and intendant, governor of Lower Egypt Shemsuhor, true of voice. This gallery in which brilliant turquoise is found."

The scribe was simply content to report that "brilliant turquoise" was found. Now the Pharaoh can rest assured in the knowledge that his messenger will bring back the turquoise he cherishes. This inscription may yet again be purely ceremonial as a demonstration of the competence, honesty and determination of Shemsuhor. Although the inscription signals a measure of the accountability of Shemsuhor to the Pharaoh, it is devoid of any accounting content; thus if it is not ceremonial then this is a case of accountability and order without any explicit use of accounting.

(3) Funerary Offerings to Expedition Members

Funerary offerings, from Pharaohs, were not restricted to high officials but also included personnel of all grades and functions. An inscription from year 2, reign of Ammenemes III, states (Gardiner, Peet, and Černý, 1955: 67):

> "A thousand of bread and beer, oxen and geese, alabaster and cloth, to the ka of the petty official Nakht, conceived of Sithepy. A thousand of bread and beer, oxen and geese, alabaster and cloth, to the ka of the scorpion-charmer Iti. Conceived of Eset, true of voice."

Here, two persons of minor ranks, a petty official and a scorpion-charmer, are honoured in the form of funerary offerings being made to their souls (ka).

The funerary offerings are itemized, and also numbered in the case of bread and beer. It is not clear from the inscriptions why the ka (the second of the deceased person in ancient Egyptian beliefs) of each of these two individuals received these benefits; it may be because they have excelled in the service of the Pharaoh, or that they died while on duty. It is also not entirely clear why quantities are specified in the case of bread and beer but not in the case of other offerings. One possibility could be that compared to oxen and geese, beer and bread are such crucial components of the diet of ancient Egyptians that certain quantities were needed to sustain those looking after the funerary cult of the dead (see Chapter 8). It may also be that the quantities stated were intended for ceremonial reasons, given the frequent appearance of these items in thousands in many other contexts (see Chapter 5; also the funerary offerings in Gardiner, Peet, and Černý, 1955: 71–73).

Sparse as it is in terms of content and frequency, the evidence on accounting inscriptions form Wadi Maghara raises a number of interesting implications. First, if the intention of the scribes was to instil an orderly system of monitoring and control in the mines, why were the accounting inscriptions so brief, so general, and at times absent? We may recall that during the latter half of the Middle Kingdom, in particular, monitoring and control procedures became fairly detailed and sophisticated (see Chapter 2). It was certainly within the capabilities of the scribes sent to Wadi Maghara to design more detailed work practices and to employ more frequent and detailed accounting-based calculations for determining performance quotas and reporting on work progress. So the question now is: why weren't these technologies adopted in Wadi Maghara? While a fuller answer to this question has to await examination of accounting inscriptions in the mines of Serabit El-Khadim, two possibilities are worth raising briefly now. First, while highly cherished, turquoise was considered an accessory, something of a luxury which, unlike in the case of such important commodities like bread, beer, and meat, livelihood did not depend upon it. But then, if this were the case why do the turquoise inscriptions from Serabit El-Khadim (discussed below) contain much more detail? Second, there may have been other, more detailed inscriptions that contained elaborate accounting and monitoring procedures that were damaged or lost. But this then leads to another question: what was the purpose of those inscriptions that have survived?

It would appear that the inscriptions form Wadi Maghara served mainly in a ceremonial capacity. For now we may wish to ask: why should funerary offerings be itemized and also, in the case of bread and beer, quantified? The mere listing of offerings, while not revealing a precise ordering of values, does indicate some implicit valuation, alabaster may have been considered more valuable than a piece of cloth, and oxen more precious than geese. The naming and listing of objects reveals something more than the mere mention of only 'offerings' without itemization. Even if it had no exact correspondence to actual offerings, the quantification of bread and beer imparts certain significance of value, greater offerings may be taken to imply desirable qualities in both the giver and the receiver. For the giver, more offerings imply greater wealth, power, and generosity; for the receiver, more offerings imply being more highly valued as a subject and a mark of personal competence, integrity, and ability at work. Itemizing and quantifying objects through the use of accounting metrics and inscription can help achieve precisely these effects. In doing so, order as reflected in the relationship between the giver and the receiver of offerings is sustained and reaffirmed as reflected in their personal qualities and the social position bestowed upon one person compared to another.

Accounting Inscriptions at Serabit El-Khadim

In contrast to the scarcity of accounting and administrative inscriptions from Wadi Maghara, there is a plethora of inscriptions which have survived from Serabit El-Khadim. For expedience of presentation, these inscriptions are organized under the following headings: (1) announcing the commencement of mining expeditions; (2) setting targets of quantities of turquoise to be brought from the mines; (3) reporting on mining activities; (4) rations and payments to expedition personnel; and (5) funerary offerings. Here we witness a more expanded scope of accounting reporting, entailing targets of performance, activities, and records of rations and payments.

(1) Commencement of Mining Expeditions

The inscriptions from Serabit El-Khadim contain a large amount of details concerning the commencement of mining expeditions, including a listing of the full names of expedition members and their official titles. In some cases, there is more information about resources allocated to the expedition such as numbers of donkeys. For example, in year 4, reign of Ammenemes III, a stelae concerning staff (youths) sent on a mining expedition (Gardiner, Peet, and Černý, 1955: 92–94) lists each and every individual name, organized in divisions of eight to nine under the control of a supervisor or a foreman, with the whole expedition under the command of Piopey as the overseer of troops. Despite damage to the stelae, some 117 names can be identified, along with 132 persons not listed by name but grouped under designations such as "Thirty ferrymen and thirty peasants" (ibid: 93). Given knowledge of ancient Egyptian work organization into crews, gangs, phyles and divisions, to be discussed in more detail in Chapter 11, it appears that this expedition was organized into a work force of about one hundred diggers divided into two phyles each composed of five ten-men strong divisions. This work force was complemented by farmers, peasants, Asiatics, and gardeners, under the administration of other professional groups such as scribes, interpreters, petty officials, and physicians. What we have here is yet another example of an ordered work force: for not only were members of an expedition named, but they were also ordered into specific administrative categories.

Table 10.1 List of Expedition Members*

‘Overseer of troops Iuk(i). Reis I......
Reis Kemen. Foreman Iu ……
Commander ………….. Reis .. ---
Commander Sihathor. Reis Senenu.’

South edge.
‘The staff of the (goddess) Selket Senebni.
What is provided for the second day, --- for the sixth day. Day I, …
Large and small cattle, 23. w3d̲- birds 2. Pigeons 30.
Scribe of the granary Ra’emhet.
Petty official of the Great House, Senwosret.
Petty official ….. --- y.
Petty official Anpuhotep.
Petty official of the Treasury -----.
The staff of the (goddess) Selket Senebn(i).
Controller Mer[i]re’nufer.
Domestic of the reis -----.
Domestic of the reis -----.
Domestic Ankhren.
----------- Senwosret.
List of the expedition:
Petty officials, 4. Scribe, controller, staff of Selket.
Domestics of the reis, 2 Domestics of stone workers, 2.
Stone cutters, 80. Serving-men 10, ……………….10.
Quarrymen, 8. Stone carvers, 2.
Coppersmiths, 2. Carpenters, 2.
Stone worker.
…… 2, peasants, 20
‘Imnw, 50 men.
from Retjenu, 10 Asiatics.
Total 209.
Donkeys 284.’

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* Source: Gardiner, Sir A.H., Peet, T.E. and Černý, J. (1955), *The Inscriptions of Sinai, Part 2: Translations and Commentary*, London: Members of the Egypt Exploration Society, Vol. 45: 117-118.

To provide a more concrete example, Table 10.1 reproduces the remains of a stelae from the reign of Ammenemes III, but the year cannot be attested because of damage to the inscription (Gardiner, Peet, and Černý, 1955: 116–118). While the entries of personnel are not organized according to divisions with designation of the responsible foreman, as in the previous inscription, it is nonetheless clear that a full listing of some individual members of the expedition was undertaken, along with their designated titles. Other members of the expedition, such as stone cutters, quarrymen, coppersmiths and carpenters, are only included in group numbers, with an aggregate total of 209 personnel given at the bottom of the inscription. There is also an entry of 284 donkeys at the end of the inscription, together with an earlier entry relating to provisions for the sixth day of specified numbers of cattle, pigeons, and other birds (these provisions will be discussed later). Adding up the numbers of people recorded either individually or in groups, including the leader of the expedition, gives a total of 208 persons, which is just one person short of the 209 shown as the total of men in the expedition at the end of the inscription.

What are the implications of documents such as this for order and its relationship with accounting? It can be seen that these inscriptions contain a much greater level of detail compared to those from Wadi Maghara examined earlier, in terms of listing names of individuals or groups of people, along with their official designations, and also other resources such as donkeys and provisions. At this stage of the analysis, it would suffice to say that, at the very least, the inscriptions offer the potential for some kind of human accountability underpinned by the notion of *Maat* both as justice and order, for there is now an inscribed record, a conscious archive (Foucault, 1972) and a collective memory (Assman, 2006) that make it possible for the leader of the expedition to be held accountable for the humans and other resources entrusted to him. If a work rate per day had been established by the scribes for the men in question, then it would have been a straightforward matter for the scribes to ascertain the 'productivity' of each expedition, but the inscriptions examined thus far offer no supportive clues. The discussion that follows has some bearing on this issue.

(2) Determining Work Targets?

The only clear example of an inscription that includes reference to what may be interpreted as a daily work target, or day-rate, is a stela from the Middle Kingdom which is undated because of damage. The text (see Table 10.2) merely refers to the Pharaoh as "The majesty of this god" (Gardiner, Peet, and Černý, 1995: 140–141). As Table 10.2 shows, Amenemhet, who had several official titles as the leader of recruits, courtier of the Great House, and god's treasurer, was charged with the responsibility of bringing precious stone, later identified as turquoise. In his report, this particular official offers a rare insight into the way work was organized in ancient

Table 10.2 Report on Mining Work to be Carried Out*

West face

*'|1 The majesty of this god sent the god's treasurer, |2 the leader of recruits, courtier of the Great House, |3 Amenemhet, to bring precious stone |4 for his majesty. This god's treasurer says: |5 I came to the mining district for my lord. |6 I ordered the work |7 which I was going to do and I assessed a delivery |8 of 25 hekat of turquoise per 15 men |9 daily, of best quality (?) |10 ………… It has never yet once been |11 done since the time of King of Upper and Lower Egypt Snofru, the true of voice. |12 I arrived at this land; |13 I began the work at a favourable moment. The might of the king |14 [inspired] me. It was his majesty's ordinance |15 [that came to pass]. -------------(*8 lines destroyed, of another only unintelligible traces) |*24 ---- 50 ---, consisting of thirty men as |25 an assessment. I dismissed my expedition |26 in two months. I brought away the fixed amount |27 which he had ordered me. I say this |28 as one who did the deed (??). Great is the might of Hathor.'*

There follows a much damaged |29 *'List of the company of officials'* consisting of three lines (the last completely effaced) of figures of the various members, with titles and names written in front of each. '|30 *The ----------------; The petty official of the Treasury -----; The petty official --------; The petty official Senwosret. The petty official 'Ankhran. |31 'The interpreter -------------; The interpreter -------------'* (The rest is lost).

South edge

'Kings's acquaintance, [god's] treasurer, intendant ----, true of voice, possessing honour.' Near the bottom on the left is a graffito '*Stone cutter ------*'.

North Edge

'Truly (beloved) of his lord, firm of sandal, quiet of steps, exact and reliable one of the lord of the two lands, exploring rod of -------------[A]menemhet.'

On the left is an unintelligible graffito, and on the right two more, ' --------- *to (?) Hathor, lady of the turquoise'* and, lower down, *'The butler Sihathor'*.

* Source: Gardiner, Sir A.H., Peet, T.E. and Černý, J. (1955), *The Inscriptions of Sinai, Part 2: Translations and Commentary*, London: Members of the Egypt Exploration Society, Vol. 45: 140-141.

Egyptian mines. Having ordered his force to begin executing the instructions of the Pharaoh, that is, digging for turquoise, he then shows how this responsibility was discharged. Upon arriving in the "mining district", he set targets of delivering 25 *hekat* of the highest quality turquoise per 15 men daily. He then reported the completion of the work after two months, when he was able to return back home having collected the quantity of turquoise ordered by the Pharaoh, which is not specified in the inscription, but is defined as “the fixed amount” presumably ordered at the commencement of the expedition.

With the use of daily targets, and assuming that the men delivered according to plan, the amount of turquoise brought back can be calculated, but the damage to the stela renders a calculation of the total force of the expedition impossible. This is rather unfortunate, but at the very least we have here an example of a leader of one expedition who, working either on the direction of the scribes or on his own volition, established work-day rates for every group of fifteen men. Quite how these work-day rates were determined is not revealed in the stela, but they may have been ‘stretch targets’, even after allowing for obvious exaggeration, given Amenemhet’s gloating that “It [this efficiency] has never yet once been done since the time of the king of Upper and Lower Egypt Snofru, the true of voice”, that is some seven centuries before!

There is no mention of why Amenemhet divided his men into groups of 15 each, instead of the typical division of 10 men (see Chapter 11). Similarly, there is no indication of how Amenemhet ensured that his men complied with the day-rates he determined, nor how he dealt with recalcitrant or less efficient workmen. Indeed, in the absence of supportive evidence, it is not certain that these day-rates were set formally and applied systematically throughout the expedition. Nevertheless, the fact that Amenemhet mentions the setting of targets and links that to the efficient achievement of the expedition is significant. For we here see an administrator who, perhaps in his desire to impress the Pharaoh, developed some ancient notion of time-bound performance targets as evidence of his competence and efficiency in ordering the activities of this expedition. The ability to construct daily targets and the appreciation of the implication of their construction for work accomplishment demonstrate how ancient mining work could be organized, ordered, and rendered controllable.

The absence of comparable daily-rate work targets from other inscriptions found at Serabit El-Khadim could be because such targets were well established, or because an aggregate target was set for the whole expedition with the leader of the expedition instructed not to return until the specified quantity of turquoise was obtained. In the latter case, the example offered here was the exception rather than the rule, but then this contrasts with the greater level of detail contained in the other inscriptions examined in the remainder of this chapter.

(3) Reporting on Mining Activities

We have already caught a glimpse of the kind of monitoring inscriptions related to the mines of Wadi Maghara, and concluded that they were minimal and perhaps intended more for ceremonial, rather than for administrative, purposes. In Serabit El-Khadim, we encounter more

Table 10.3 Report on a Mining Expedition*

West face

'|1 The majesty of this god sent the god's treasurer, the intendant, leader of the gangs Harwerré, |2 to this mining country. This country was reached in the third month of winter, though it was not the season for coming |3 to this mining district. This god's treasurer says to the officials who shall come to this mining district at this season: |4 Do not be downcast because of it. Behold, it is to good that Hathor will bring it. |5 Look at me, I have proved it in my own person. I came from Egypt |6 while I was downcast. Hard was it in my opinion to find the (right) colour when the foreign country was hot |7 in summer, the hills branded (one) and the colour troubled. On the morning |8 of my rally at Rokhet I kept on addressing the craftsmen concerning it: |9 "Successful is he who is in this mining country". And they said, "There is turquoise |10 in the hill for ever. It is the (right) colour that is sought at this season, for |11 we have been used to hear likewise that the ore is forthcoming at this season, but it is the (right) colour |12 which it lacks in this evil season of summer." |13 (So) I kept on going to this mining country, the will of the king putting (it) in my heart. |14 Then when I reached this land, I began the work, at a favourable moment. |15 My expedition returned complete in its entirety, no loss had ever occurred among it. I was not downcast |16 at the prospect of the labour, as I had arrived (just) to seize a favourable moment. I broke off in the first month |17 of summer. I brought away this precious stone. I did more |18 than anyone who had come and more than that which had been commanded. There was nothing to be wished for in (the way of) good colour. |19 "The two eyes are in festival" was kinder than (at) its proper seasons. Offer, |20 offer you to the mistress of heaven, appease Hathor. If you do it, it will be profitable |21 to you, and you will render more than what is ordained of you. |22 I accomplished my expedition with great success without a voice being raised |23 against my work which I have done excellently. The whole expedition and company .....'

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* Source: Gardiner, Sir A.H., Peet, T.E. and Černý, J. (1955), *The Inscriptions of Sinai, Part 2: Translations and Commentary*, London: Members of the Egypt Exploration Society, Vol. 45: 97-98.

detailed reporting of activities. In one inscription dated to year 44, reign of Ammenemes III (Gardiner, Peet, and Černý, 1955: 79), the intendant of the Treasury, and leader of the expedition, Sebkherhab reports on the progress of affairs, thus:

> "I opened up the gallery of my lord. The craftsmen arrived in full tale, there was no case of loss among (them). . . . The mountains produce that which is in them, they bring to light the hidden things that are in them and the deserts bring their offerings".

Here again, as a progress report, this is rather general. It is to be distinguished from the progress reports of the Wadi Maghara only to the extent that it reports on the arrival of the expedition force to the mining site without the loss of any of its members. Concerning turquoise, there is only the customary reference that it has been located in the mines “The mountains produce that which is in them”. Perhaps the most intact and complete work progress report on mining activities is that dating to year 6, reign of Ammenemes III (Gardiner, Peet, and Černý, 1955: 97–98) shown in table 10.3.

This report (see Table 10.3) differs from those examined earlier in a number of respects. First, it shows how Harwerre’, the leader of the expedition, motivated his work force by seeking to instil in them some sense of work pride: “On the morning of my rally at Rokhet I kept on addressing the craftsmen concerning it: Successful is he who is in this mining country”. Second, the report stresses the abundance and quality of the turquoise found: “There is turquoise in the hills for ever. It is the (right) colour that is sought at this season”, for it appears there were other contradictory reports on quality by someone else: because of “the hot summer . . . the colour of [turquoise] troubled.” Third, Harwerre’ reports the conclusion of his expedition and the safe return of all its members without loss, accounting for them individually by name, occupation or official title (this latter part is not reproduced in Table 10.3 because of space limitations). Fourth, he notes how his mission was successfully accomplished without “a voice being raised against my work which I have done excellently.” All this points to one thing; a claim, exaggerated as it may be, made by the leader of the expedition Harwerre’ that, because of his competence as a leader, and the procedures he followed, everything went according to expectations and was in order.

(4) Rations and Payments to Expedition Members

The best surviving evidence from the Middle Kingdom comes from the ‘Shrine of the Kings’, which cannot be dated because of damage to the inscription (Gardiner, Peet, and Černý, 1955: 137–138).

Because of the substantial damage to the stela, only the west face of it is reproduced in Table 10.4. In the early part of the stela, the rations of food provisions are set as “the rate of ten (loaves of) bread per head”. This may be taken to be the basic ration for a person of a given rank, and a multiplier (or a smaller fraction) of this standard ration applied to different individuals depending upon rank. Also, this ration may present the total provision in standard loaves of bread, so that the actual distribution of provision may be a bundle of goods (e.g., bread, beer, meat. etc.) equal in value to ten loaves of bread or the multiplier applied to it according to rank. The inscription then provides in a tabular format provisions (or rations) paid to different classes of workmen. [1]

Each individual in the first category (with the exception of the foreman who, given evidence elsewhere, is likely to have had a bigger ration) is

Table 10.4 Mining Stela Inscription*

West face.

‘|1 We journeyed even as men who (go) to their own nomes. I was not downcast [at the head of my force]. I succeeded in seizing a good opportunity. I gave out food at the rate of ten (loaves of) bread per head ---. |2 All rejoiced; there was none weary of heart, my rations (?) ---------- of their bringing treasures --------------- very many [leaders (?)] |3 (in) coming after Snofru. There was not one of them who did what I have done, excellent [was the success of my arms]. The hills lead on to what is [in them for the king of Upper and Lower Egypt] --------------- they have [given it to him into his charge] |4 as what (his) father [Atum] has granted him. To him belongs all the turquoise which was hidden [in] this [mountain and which has not been seen] since antiquity. ------------------------ |5 ---------|6 ---------. I speak a great thing, I cause you to hear. If ye shall come to this region ----------------|7 the majesty of this god in the neighbourhood of the gallery of ----------of year II which the servant of his lord opened when he came for turquoise, the gallery being --------.’

Horizontal lines at the bottom (at least two lines lost):

|1 ‘Stone carvers, 2; stone workers (wh3) -------------- |2 peasants 43, rowers 20, men (si) ----------------, |3 serfs of the god’s treasurer, 2. Asses 500 ---------.’

			Hf’-loaves	*Various bread*	*Various wine*	*Beer*
|5 Foreman I,	*20 men,*	*100 men*	*I*	*4*	*I*	(blank)
	14 men	*100*	*2*	*6*	*I*	
Stone cutters	*10 men*	*64*	*4 (?)*	*8 (?)*	*(blank)*	
|6 Remainder of young troops	*10 men*	*151*	*2 (?)*	*9 (?)*	*(blank)*	

* Source: Gardiner, Sir A.H., Peet, T.E. and Černý, J. (1955), *The Inscriptions of Sinai, Part 2: Translations and Commentary*, London: Members of the Egypt Exploration Society, Vol. 45: 137-138.

allocated one Hf’ loaf, four loaves of various breads, and one (jug) of wine. These rations are then made to differ by the scribe across different labour categories. The blank entries for beer and for some of the wine make it difficult to state whether or not Table 10.4 includes a complete enumeration of rations. Irrespective of the extent of completeness of the table, it is evident that the scribes in charge showed concern for the determination of the basic rations to order provisions for the workmen.

The role that accounting played in affirming order here is manifest in several ways. First, it provided a metric that made it possible for the scribes to determine of precise rations that judiciously differentiated individual pay across different categories of labour. This determination of rations per category of labour was a means of ordering individuals according to their worth: the higher the rations the higher the position of the individual on the social and occupational ladders, and also the more is the symbolic violence visited upon those individuals accorded lower rungs of the ladder. Second, it offered a technology that recorded, in accessible tabular format, allocations of food provisions based on previously determined rations, of different types of foodstuffs, which could be equated into a common denominator of the basic ration or its multipliers. Third, it provided a record at the disposal of the scribes which visualized how they discharged their responsibilities of distributing rations or provisions. This afforded senior scribes the scope to exercise some measure of monitoring at a distance. For scribes and literate craftsmen, they could check for themselves whether they received their exact rations, and how their relations compared against those of others in different groups, that is, whether or not *Maat* has been upheld. In summary, even at this level of relatively little detail, the power of accounting inscriptions as a means of ordering life is already evident. The mining accounts functioned as a conscious archive whereby individuals were discursively inscribed in terms of the activities they undertook and the rations they received; for the ancient Egyptians of the time these accounts inscribed a collective cultural memory of what it meant to work in the mines.

(5) Funerary Offerings to Expedition Members

Much of the evidence relating to funerary offerings form Serabit El-Khadim is almost identical in form and structure to that reported in Wadi Maghara. Hence, only one example from Serabit El-Khadim will be drawn upon here; an inscription dated to year 4, reign of Pharaoh Ammenemes IV (1799–1787 BCE) states (Gardiner, Peet, and Černý, 1955: 122):

> "Thousands of bread and beer, oxen-flesh and fowl, cloth and alabaster for the ka of the treasurer [of] the attendant of the 'aryt-chamber Kemau, conceived [of] Iret, true of voice."

The format of this inscription is similar to that in Wadi Maghara's inscriptions, except that here we are dealing with offerings to a more senior official, compared to the workmen of Wadi Maghara. The itemized offerings look almost the same in both cases, except for the mention of "Thousands of bread and beer" in place of the customary "one thousand of bread and beer" for the more humble workers. As before, accounting for offerings here plays more of a symbolic role than an administrative role, with numbers having a ceremonial, fictitious character intended to imply plenitude of offerings to the ka of every expedition member. It is perhaps worth recalling that going on mining expeditions across a hostile desert was almost tantamount to being a member of an army at war where death could not be treated as a negligible risk, despite the customary claim by every expedition leader that all members of his expedition returned home safe and well. Making generous pledges of offerings to members of a mining expedition in case of death would have provided much needed assurance that these members were looked after in death as they have been looked after in life via the provision of work and rations.

Administrative Titles in the Mines

One of the distinguishing features of the Middle Kingdom was the extensive proliferation of administrative titles (see Chapter 2). The range of titles used in the mining expeditions is explored here because they are part of the assemblage (including accounting inscriptions) used to order mining activities. By way of contrast, the discussion proceeds with a very brief reference to the administrative titles recorded at these sites during the Old Kingdom.

As the Sinai inscriptions at least up to the Fourth Dynasty (2575–2465 BCE) were of a purely royal nature, no mention was made of the names of expedition leaders or members (Gardiner, Peet, and Černý, 1955). From the Fourth Dynasty onwards more complete listing of administrative titles began to be recorded. These included such titles as: commander of the expedition; god's treasurer; commander of recruits; pilot of the fleet; ship's lieutenant; overseer of interpreters; second-in-charge of interpreters; controller of interpreters; overseer of officials; controller of officials; controller of copper; and overseer of 10 workmen. With respect to the scribal occupation, the following titles were used: overseer of the scribes; scribe of copper; and scribes. Compared to the Middle Kingdom, the titles listed here are not numerous. While bearing in mind that some of these titles may have been symbolic, especially in the case of the 'more' important official titles, it is likely that they also referred to some functional responsibilities. It is possible for an overall hierarchy to be constructed from these titles, for example, an administrator was likely higher in rank than a craftsman and the latter than a labourer. However, the mere listing of titles alone cannot be used to deduce a precise ranking throughout the hierarchy. It would have been possible to gain some insight into this through knowledge of rations, but no such data survives from Old Kingdom Sinai.

During the Middle Kingdom, inscriptions were made on stelae and tablets not only on royal monuments. A considerable space was therefore carved up for the scribes to record the activities of their expeditions, the names and titles of personnel and even to afford leaders the opportunity to boast about their deeds. Many of these titles are collated here from the translation of the *Sinai Inscriptions* by Gardiner, Peet, and Černý (1955).

The leader of the expedition was both in name and reality the highest ranking official, being singled out alone for praise in serving Pharaoh, and claiming all credit for the achievement of the expedition. He is further distinguished from other members by carrying other titles, and, even if they were all of an honorific nature, their mention provides some indication of his prestige. Among other titles assumed by him were: 'divine chancellor', 'god's treasurer', 'chief intendant of the Treasury', 'deputy of the chief steward', 'overseer of treasure', 'commander of recruits', 'overseer of transport ships', and 'governor of Lower Egypt'.[2] It is evident that the majority of these titles relate in one way or another to the Treasury, the centre of the economic structure of ancient Egypt. It may be assumed therefore that the leader of the expedition was charged with the responsibility of supplying the royal Treasury with resources from a variety of sources. Moreover, in some of the titles he was also responsible for transporting, storing, and guarding the treasures.

Other officials of the Treasury: these are titles of lower administrative ranks related to the Treasury, such as: 'assistant treasurer of the overseer of treasure', 'deputy of the overseer of treasure', and 'petty official of the Treasury'. As Gardiner, Peet, and Černý, (1955: 160) note: "The prominent position occupied by these Treasury officials in the inscriptions of Sinai is easily explained. Turquoise was the monopoly of the king and formed part of the royal treasure. Therefore the officials ultimately responsible for the expedition were the higher officials of the Treasury department."

Scribes: these included expedition members with designated scribal titles: 'royal scribe', 'scribe of the Treasury', 'scribe of the governing body of the Treasury', 'scribe of the granary', 'scribe of the expedition', and 'scribe'. It may be assumed that these officials were entrusted with the responsibility of keeping the records of the expedition, distributing rations, and recording their distribution.

Interpreters and 'Overseer of Interpreters'.

Petty officials: these titles were sometimes linked to a specific department or function, such as 'petty official of the Treasury', or 'petty official of the Great House'. These held administrative jobs of less importance compared to other officials.

Stone workers: these made the bulk of the expedition, and their titles varied, presumably to signify the type of skill, such as 'foreman', 'stone carver', 'stone cutter', 'domestic', 'sculpture', 'copper worker', and 'stone worker'. They were organized into phyles and divisions of 10 men each.

Transport, which included 'overseer of transport ships', 'ferrymen', and 'rowers'. Donkeys driven by peasants were used to transport objects on land.

Other titles existed including 'domestic', 'serving men', ' cooks', 'gardeners', 'intendant of the chamber of presents', 'scorpion charmer', 'w'b priest', and 'physician'.

Extreme care should be taken in interpreting these titles, and Gardiner, Peet, and Černý (1955: 15) have warned that, "In dealing with the more important officers it must always be remembered that some of the titles which they bear, even when not purely honorific, have no relation to the functions for which they were selected to accompany the Sinai expeditions. It is necessary to bear this constantly in mind in attempting to deduce, from the titles which occur on the monuments, the composition of the forces sent to Sinai; otherwise we shall merely aggravate the already serious difficulties caused by our comparative ignorance of the duties actually involved in many of the best-known Egyptian titles." While heading this warning, two observations are relevant. First, the range of administrative and work titles expanded significantly during the Middle Kingdom compared to the Old Kingdom, and this may have been strongly connected to the desire to ensure a greater measure of order in society, particularly following the upheavals of the First Intermediate Period (see Chapter 2). Second, we can be more assured about the proximity of titles to tasks for less senior administrators.

ACCOUNTING AND ADMINISTRATIVE INSCRIPTIONS IN THE WADI HAMMAMAT EXPEDITIONS

The aim of this section is to explore the roles of accounting and administrative practices in the Wadi Hammamat expeditions drawing upon the French translations of the complete inscriptions (Couyat and Montet, 1912; Goyon, 1957), and the English translations of some inscriptions by Breasted (1906/1988). Rather than replicate previous insights, the analysis will seek to uncover differences in accounting and administrative inscriptions that may be attributed to differences in location or time. To the extent that the analysis does not yield any discernible differences, it may be concluded, however tentatively, that these inscriptions remained relatively stable both temporally and spatially.

Wadi Hammamat lies north of the illustrious ancient capital, Thebes (modern Luxor), is very close to the modern city of Qena and stretches across the Eastern Desert towards the coast of the Red Sea (Goyon, 1957: 1; Wilkinson, 1999: xx). During the Middle Kingdom, Wadi Hammamat was the key route from the Nile across the Eastern Desert to Quesir on the Red Sea (Quirke and Spencer, 1992: 167; Freeman, 1997: 18). Some expeditions were sent to bring black basaltic stones for use as part of (the lid) of the Pharaoh's sarcophagus, while others were instructed to bring other types of precious stone and monuments.

Analysis of the Inscriptions

The Wadi Hammamat inscriptions contain invaluable accounting and administrative documents, a few of which are nearly complete and in good condition. In comparison with the Serabit El-Khadim inscriptions, those from Wadi Hammamat are much less detailed. The names and titles of expedition members are not listed, and in some cases their aggregate number is not noted. When numbers of expedition members are mentioned, they are either stated in aggregate for the whole expedition or per group. For example, in the inscription dated to year 19, first month of the second season, day 15 of the reign of Pharaoh Nematre (Amenemhet III) the leader of the expedition, Amenemhet (after the Pharaoh's name), states (Breasted, 1906/1988: 314):

> "His soldiers of the necropolis, 20; quarrymen, 30; sailor, 30; a numerous army [of labourers?], 2,000."

In other inscriptions, it was deemed sufficient to state the total number of members of the expedition and then to merely list the occupations of various groups without indicating their numbers, as, for example, in the expedition led by Amenemhet, year 2, second month of the first season, day 15 of the reign of Pharaoh Nibtowere-Mentuhotep IV, 1998–1991 BCE (Breasted, 1906/1988: 215):

> "Now, his majesty commanded that there go forth to this august highland an army with me, men of the choicest of the whole land: miners, artificers, quarrymen, artists, draughtsmen, stonecutters, gold-workers, treasurers of Pharaoh, of every department of the White House, and every office of the king-house united behind me."[3]

Further, the Wadi Hamamat inscriptions begin with a precise dating of the dispatch of the expedition, indicating the day, month and year, in contrast to only the year in the case of the Sinai inscriptions. But the overall format of the inscriptions follows the same general style as those of Wadi Maghara and Serabit El-Khadim. As we have seen, this style begins with an indication of the date of the dispatch of the expedition, the name of the ruling Pharaoh, the name and titles (formal or honorific) of the leader of the expedition, and the items to be brought by the expedition. This is followed by the number of the expedition members and sometimes their rations. The inscription concludes with a statement indicating success in performing the expedition's tasks, the safe return of its members, and praise for its competent leader.

There is little doubt that the scribes who recorded these inscriptions were working to some standard model, perhaps with minor variations, a canonization of inscriptions that invests them with greater legitimacy and order. This is supported by the evidence of model inscriptions used for the training of young scribes while being educated(see Chapter 2). Strict compliance with this style, it should be appreciated, may have militated against a full, and more accurate reporting of exactly what went on. Variations in practice which may have violated this stringent style may have had to be suppressed, in order to promote stylistic and orderly compliance. Otherwise, it is difficult to appreciate how virtually each of the inscriptions concludes with a statement similar to the following one made by Amenemhet, leader of an expedition dated to year 2, second month of the first season, day 15 of the reign of Nibtowere-Mentuhotep IV (Breasted, 1906/1988: 215):

> "My soldiers [workmen] descended without loss; not a man perished, not a troop was missing, not an ass died, not a workman was enfeebled."

Moreover, why does every inscription end up with its leader gloating that never before, not since the days of the ancient gods or god Pharaohs, did any leader ever conclude an expedition with such success, nor achieve tasks with such efficiency? To take these statements at face value and interpret them literally means that we would have to accept unquestioningly the highly untenable and implausible conclusion that throughout the Middle Kingdom no expedition member ever died, fell ill, or fled work. This is rather difficult to accept given how extremely large many of the expeditions were, numbering in thousands of people (the force of the Amenemhet's expedition totalled 10,000 men; Breasted, 1906/1988: 213), the long duration of most expeditions (several months), the hazardous journeys to the mines and back home through hostile landscape, the extreme heat, hardship, and unfavourable working conditions of mining in the desert. It is suggested here that this remarkable conformity in the inscriptions is yet another exercise in constructing and promoting a belief that *Maat* as order always prevailed in mining expeditions.

The inscription of Henu, minister of Pharaoh Mentuhotep III, 2010–1998 BCE, details the preparation of an expedition, its departure, the provisions offered, and its return to quarry at Wadi Hammamat. In this inscription, Henu reports (Breasted, 1906/1988: 209–210):

> "[My lord, life, prosperity], health! sent me to dispatch a ship to Punt to bring for him fresh myrrh from the sheiks over the Red Land (desert), by reason of the fear of him in the highlands. . . . I made the road a river, and the Red Land (desert) a stretch of field, for I gave a leathern bottle, a carrying pole (*sts*), 2 jars of water and 20 loaves to each one among them everyday. . . . Then I reached the (Red) Sea; then I made this ship, and I dispatched it with everything, when I had made a great oblation of cattle, bulls, and ibexes. Now, after my return from the (Red) Sea, I executed the commands of his majesty, and I brought for him all the gifts, which I had found in the regions of the God's-Land. I returned through the valley of Hammamat."

Henu's inscription offers a useful account of an expedition in terms of identifying its purpose, the route it took to its destination and return, the itemized goods brought, even though they are not quantified, and the rations given to members of the expedition. Nowhere in the inscription is there any reference to possible differentiation of rations by rank or function, but as we have seen in earlier examples, this should be assumed as the rations would have been known and applied by the scribes according to the relevant rank (see also Chapter 11).

Another inscription concerning an expedition to the same location is Inscription 61, dating to year 38, third month of the season Akhet (Inundation), days 25 and 27 of the reign of Sesostris I, 1971–1926 BCE (Goyon, 1957). The inscription (not reproduced here) documents the activities of an expedition under the leadership of the herald Ameni, and provides a classification of the labour force of the expedition by title or function, describes the workloads, and details rations for members of the expedition per class of occupation. In keeping with the style of the Wadi Hammamat inscriptions, no roster of individual names is provided. All in all, there are 26 groups ranging from the most senior, after the leader Ameni, to those with the most menial tasks. Membership of the expedition totals 18,742, including Ameni. Of this number, 81 are administrators of various ranks (twelve categories), including two stewards of the Great Board, two stewards of the Treasury, four scribes of the Great Board and four scribes of the Treasury, ten seal-bearers, three secretaries, a police officer, twenty mayors, and thirty royal retainers. This administrative corpus was in charge of 18, 661 individuals the great bulk of them (17,000) were unskilled labourers. Several skilled workers are listed, including 30 hunters, 60 sandal-makers, 100 stonecutters, 100 quarrymen, and 200 rowers. The expedition was supported by 1,000 guardsmen (300 naval officers and 700 infantrymen), and service personnel made up of 20 brewers, 20 millers, 20 bakers, and 50 butlers.

This inscription testifies to the power of accounting and administrative inscriptions in ordering the work force of a mining expedition. The classification of the 81 administrators into 12 administrative titles and of the remainder of the expedition into 14 further titles, or designations, along with the indication of the size of each group shows the organizing capabilities of the administrative and accounting technologies of the time. The numbers allocated to each category of skilled workers or service personnel do not seem to be haphazard or random, but appear to be based on careful planning. The inscription states that the expedition was sent to perform the tasks ordered by the Pharaoh (without specifying exactly what these were) and that these tasks, now specified as 60 sphinxes and 150 statues, had been carried out successfully. The final part of this inscription provides details of rations allocated to every member of the expedition, each according to his rank, and this is discussed in the next chapter.

* *

The aim of this chapter was to examine the roles of accounting and administrative inscriptions during the Middle Kingdom in ordering mining activities. It was not intended to survey all mining expeditions during that era, for such a task is beyond the scope of this book; rather the focus has been upon analyzing inscriptions from some key mining sites. However, an attempt has been made to maximize variations within and across mining sites in order to explore the extent to which this yields different insights. In the new Kingdom, mining expeditions naturally continued unabated. The detailed inscriptions of these expeditions are not available in English, hence they were not analyzed in this chapter. Haring (1997: 250–252) provides a brief but interesting summary of a number of these expeditions sent to the Eastern Desert during the Twentieth Dynasty (1196–1070 BCE) to bring gold and galena to three major temples in Thebes. Both mined gold and galena were valued in *deben*, and the assumption is that these precious metals were likely to have been used to remunerate personnel. The use of precious metals instead of grain may have been caused by the weakening of the centralized redistributive system and/or the increase in the price of grain because of its scarcity during that time (ibid: 252). As the detailed inscriptions of these expeditions could not be consulted no further comment could be made about their accounting content.

Concerning the mining expeditions examined in detail here, there are two observations with regard to variations across mining sites. First, a comparison of the Sinai inscriptions from Wadi Maghara with those of Serabit El-Khadim indicates that the level of detail reported was significantly greater in the case of the latter. It has been suggested earlier that this can be traced to two possibilities. First, by the beginning of the Twelfth Dynasty the mines of Wadi Maghara became much less significant compared to those of Serabit El-Khadim. Second, unlike the Wadi Maghara mines which were used extensively during the Old Kingdom, Serabit El-Khadim was a green field site used mainly during the Middle Kingdom. Variations across geographical areas were noted when the Sinai inscriptions were compared against those of Wadi Hammamat. In the case of the latter, we encounter more precise dating to the day, month and year instead of only the year in the case of the Sinai inscriptions. In both sets of inscriptions, it is safe to conclude that some notion of ancient time-space zoning was at work, and this was much finer in the case of the Wadi Hammamat inscriptions. Moreover, in the Wadi Hammamat inscriptions it is possible to trace an expedition from its inception through to its conclusion, but these inscriptions replaced the more detailed name rosters used in the Sinai inscriptions with only the aggregate number of an expedition or at best the number of individuals in each occupation.

Despite these variations, it is evident from the inscriptions that there were a number of continuities in accounting and administrative inscriptions. The scribes and administrators played key roles in the mobilization, planning, execution, and monitoring of mining activities. The leader of the expedition was invariably a very senior administrator, supported by other administrators of different ranks including scribes, many of them were linked to the Treasury. In the majority of cases, the surviving inscriptions do not allow deducing a clear ranking of the different occupations of expedition members. Nonetheless, there can be little doubt that personnel were ranked as evidenced from the differential distribution of rations to be discussed in the next chapter.

While the administrators attended to the main task of managing and overseeing the activities of the expedition, the scribes inscribed these activities, accounted for expedition members, specified, and sometimes enumerated, the objects brought with the expedition, and allocated individual rations. With few exceptions when specific day day-rates were stipulated by the leader of the expedition for his men, achievement targets were not included in the inscriptions. It may be that targets were agreed upon in advance but not inscribed. A close reading of the inscriptions suggests that virtually in every case the leader of the expedition was charged with bringing back specific quantities of objects from the mines. However, it seems that no precise time limit was set, given the long, arduous journey, and all the uncertainties associated with the speed with which the objects demanded could be found and extracted.

Given these observations, the basis of an ancient means of human accountability, not to be compared or confused with modern notions of accountability, could be discerned, whereby the leader had to account to the Pharaoh for his ability to compose and mobilize an expedition, his competence in taking the expedition safely through dangerous routes to its ultimate destination and the safe return of 'all' its members, his ability to deliver the objects ordered by the Pharaoh, and his honesty, fairness, and justice (doing *Maat*). Accounting inscriptions rendered possible the attainment of these objectives.

What is perhaps most perplexing about the mining inscriptions is that, compared to other accounting inscriptions examined in this book, they are rather too general, and make hardly any use of many of the accounting technologies, including money of account, that have been encountered in other activities. It is difficult to offer definitive arguments as to why this was the case. There can be little doubt that the scribes that accompanied the mining expeditions were as well trained in accounting matters as those who worked in other state institutions, such as tax estimation and collection, the palace, the temples, the bakeries, and royal workshops and projects. The scribes who accompanied mining expeditions, if they so wished, could have employed as sophisticated a set of accounting technologies as did their colleagues working in these other institutions. Thus, the question now is: why do we not encounter such sophistication in the mining inscriptions discussed in this chapter, barring the ration allocation part of the Ameni expedition (to be discussed in the next chapter)?

Two possible explanations can be entertained here.[4] The first possibility is that there were numerous detailed accounting inscriptions for mining expeditions, but these have not survived. Such an explanation is potentially credible, given that the number of surviving inscriptions from ancient Egypt is arguably a tiny fraction of the original number. Working in the desert, where mines were located, may have also contributed to a greater incidence of damage to papyrus, which disintegrated in slightly damp conditions (such as those experienced at night, especially in the desert winter), particularly as there would have been shortage of suitable places for the safe keep of papyrus. The second plausible explanation is that because of the nature of mining activities, where much of the work would have involved digging and quarrying in the mountains for considerable periods of time before the required material became available for extraction, the scribes made use of simpler accounting technologies because they felt that mining activities do not lend themselves to more detailed accounting. Either way, in the absence of supportive evidence these explanations have to remain speculative.

Even though in this chapter we witness much less detailed inscriptions of accounting technologies than we have encountered thus far in the book, the significance to the ancient Egyptians of accounting and administrative inscriptions for the mining expeditions examined here should not be underestimated. The accounting inscriptions relating to mining activities, written in hieroglyphics as the divine language of the gods, were an important ritual that had powerful performative effects. For to the ancient Egyptians this form of writing produced an animated, living world. As Naydler (1996: 143) suggests: "like the spoken word, the written word could draw into existence, or gain power over, the beings that it named. Like the carved or painted image, the written word could become imbued with the life of the thing or creature it represented. . . . For the ancient Egyptians, words literally gave life to the realities to which they referred. Any representations were capable of becoming the thing represented." This power to animate, to bring to life the very things inscriptions speak of, extends readily to the accounting inscriptions discussed here and elsewhere in this book. As a form of re-presentation, the performativity of accounting produced these very activities, objects, and subjects that it inscribed.

11 Accounting and the Ordering of Work Organization

> "Work and workers needed to be organized so as to achieve a desired level of production and delivery of goods and services. While laborers of all sorts were subject to a certain amount of violent coercion, that is not a sufficient explanation of the general successful discipline of labor, nor is the likely correct notion that workers obliged to perform corvée labor on major royal projects, such as pyramid-building, were, at least, in part, motivated by religious devotion (i.e., to the monarchy)." (Kadish, 1996: 439)

Work discipline, whether it was the outcome of violent coercion, judicious administration, or religious education, was an important factor in rendering the ancient Egypt world orderly. While state coercion and religious devotion may have played a part in promoting work discipline in ancient Egypt, this quote suggests that work organization was a more significant factor. Evidence on work organization during the Old Kingdom (2575–2134 BCE) is very sparse. As Eyre (1987: 7) notes, "[t]he building workforces have left little more than occasional masons' marks on blocks of stone to witness their organisation." The picture that emerges is one in which labour was organized into a hierarchy of groups of differing sizes (e.g., crews, divisions, etc.; see the following) entrusted to perform specified tasks, under the watchful eyes of supervisors or overseers, in return for subsistence rations paid in kind (e.g., bread, beer, etc.) or as money of account. Most workmen were recruited on a temporary basis for specific tasks, such as mining expeditions, as we have seen in Chapter 10, but there is evidence that permanent craftsmen were employed for skilled quarrying and building. Building state projects required the organization of a large labour force over a considerable period of time. Work materials, such as granite stones, were transported using boats, donkeys, and oxen. But as Eyre (1987: 9–10) suggests for that era, because of the lack of sufficient evidence "Questions of timing and planning, of work organisation and control on site, of recruitment, and of housing and payment of the workforce are largely subjects for conjecture."

In contrast to the sparse evidence from the Old Kingdom, much more evidence has survived from the Middle Kingdom (2040–1640 BCE) with its unprecedented emphasis upon precision, administrative detail, and control (see Chapter 2). Inspection of translations of original inscriptions reveals the presence of four stages through which work was ordered: organizing labour physically, monitoring and controlling workers' attendance and absence, assigning tasks and determining work targets, using team marks and control notes to trace performance, and fixing and distributing rations. While not exhaustive, these four dimensions cover some important aspects of the work organization discussed in Chapter 7, even when judged by contemporary standards.

There is considerable scope for accounting to order and mediate the four dimensions identified here. The compilation of rosters, attendance lists, lists of absentee workers, the division of the work force into smaller groups, the use of team marks and control marks all can render workmen amenable to calculation and clear delineation of their accountability. In allocating work duties, accounting can become central to the determination of work targets and definition of the locus of specific responsibilities via the development of techniques that measure and report achievements, compare achievements against pre-determined work targets, and specify the extent to which performance exceeds or falls below expectations. As we have seen in earlier chapters, accounting can play a potentially powerful role in determining provisions for personnel performing specific tasks and occupying different hierarchical levels. In the absence of a unique currency with universal value, accounting can define value equivalences across a range of items or activities to determine payment in kind. The analysis in this chapter shows that accounting was called upon to attend to these roles.

This chapter explores the interaction between accounting and administrative inscriptions and the extent to which they both ordered and mediated work organization and labour discipline. In work organization, spatial and temporal zoning are important attributes of accounting and administrative inscriptions that promote precision, detailed calculations, and control. Setting work targets entails expectations of the completion of certain tasks in specified times and places. Moreover, measuring achievements against targets involves time-space zoning in which accounting measurement and reporting intervene. The determination and payment of rations engages a process in which accounting rewards labour for effort, even if the rewards are fixed per type of employee irrespective of level of achievement. These issues have been examined by students of work organization in contemporary settings, but precious little is known about them in ancient times.

This chapter examines inscriptions relating to the organization of work, methods of drawing up rosters and name lists, and ways of organizing a large labour force into smaller, more manageable and accountable groups. It also analyzes inscriptions relating to the determination of work targets, including time-volume ratios, and conversion ratios. The discussion shows how the ancient scribes reported on actual achievements as compared to previously set targets, on the methods used to determine and calculate rations' equivalence across different ranks and how all this contributed to the organization of work examined here.

ORGANIZING THE WORKFORCE

The intention of this section is to focus on the intertwining of administrative and accounting inscriptions relating to the organization of work and the monitoring of the attendance of workmen. Important state projects, such as building temples, royal residences and tombs, were typically initiated through royal decrees addressed to the vizier or other senior staff. One example is the assignment of duties by a decree (on the Berlin Stele 1204) from Pharaoh Senusret III (1878–1841 BCE), Dynasty 12 (Wente, 1990: 24):

> "Royal decree to the hereditary noble, count, seal-bearer of the king, sole companion, overseer of the two houses of gold and overseer of the two houses of silver, the chief treasurer Ikhernofret, a possessor of honor:
>
> My Majesty has commanded to have you sail upstream to Abydos of the Thinite nome in order to make a monument for my father Osiris, Foremost of Westerners, that is, to refurbish his mysterious cult image with the electrum which he (Osiris) caused My Majesty to bring back from Nubia in victory and in triumph.
>
> Now it is in the proper way of doing things in benefiting(?) my father Osiris that you will do this since My Majesty sends you, trusting in your doing everything to justify My Majesty's confidence, because it is a fact that you profited from My Majesty's tutelage when as My Majesty's foster son, a sole pupil of my palace, you grew up. My Majesty appointed you as companion when you were a young man of twenty-six years of age. Because I discerned that you were one of excellent behavior and keen tongue, who had issued from the womb already wise. My Majesty did this.
>
> And now My Majesty is sending you to do this, for My Majesty has perceived that there is not anyone who should do it except you. Go now and return after you have done according to all that My Majesty has commanded."

This decree simply assigns the task of making a monument for Osiris to Ikhernofret without providing any specific details on what the monument should look like or how it should be built. These details were left to the discretion of the chief treasurer and his senior engineers. But the decree invokes various strong social norms. Ikhernofret is reminded of his upbringing as one of those lucky ones who benefited from royal favours such as education and fostering in the palace and promotion of his career thereafter. The inscription also emphasizes the trust placed in him by the Pharaoh and his integrity, and underscores Ikernofret's wisdom and competence in performing tasks. Given these normative expectations, no doubt underpinned by *Maat*, and the socialization process experienced by the chief treasurer in his early, formative, years, he was expected to respond to the responsibilities entrusted to him in a responsible and competent manner. Those who failed to honour these expectations were severely punished (see the following). Even in this broadly phrased decree, the basic elements of a form of human responsibility that ordered behaviour are evident: the definition of a specific task, the allocation of a task to a trusted royal subject, the expectation that the duty will be discharged competently, and the need to render an account of what the subject has done. At the operational level, more detailed inscriptions were produced in order to secure high labour discipline as shown in the remainder of this chapter.

Rosters, Name Lists, and the 'Division' of Labour

Rosters and name lists for workers were used extensively in ancient Egypt. Papyrus Reisner I, from the reign of Senwosret I, 1971–1926 BCE (Simpson, 1963), contains entries for a building project involving nearly three hundred workers and foremen organized by division (a subset of a phyle; see the following). The various documents used covered: (i) number of enlisted workmen, per day per year; (ii) lists of named individual workmen grouped under a named foreman; (iii) daily attendance and absence for individual workers grouped under named foremen; (iv) lists of workmen on the move to jobs in other locations; (v) specified measures and quantities of various products/tasks converted into equivalent man-days; and (vi) rations allocated to each workman. Similarly, Papyrus Reisner II (Simpson, 1965), details the accounts of the Dockyard Workshop at This, an administrative centre near Abydos. It contains a daily roster of approximately fifty people over 228 days, showing the number of man-days expended on the project, and the totals calculated at the end of each month.

Crucial to the construction of these rosters and name lists is the way labour was organized, generally known as the crew system, whose genesis goes back to pre-dynastic Egypt. Early evidence suggests that this system was connected to initiation ceremonies and protective divinities and was thereafter used in mortuary cults and as a means of organizing temple priesthood (Eyre, 1987; Roth, 1991) before being adapted for use in the Palace and other administrative domains in the Old Kingdom. The crew had an internal structure that was amenable to fine administrative tuning. In the Old Kingdom, a crew was made up of two gangs, each gang divided into four or five phyles, and each phyle into four divisions of about ten men each (Roth, 1991). Hence, a crew consisted of approximately 400 men[1], although as Eyre (1987: 12) suggests "there is no reason to suppose that the numbers were constant, not varying from project to project". In the Middle Kingdom the most frequent sizes of a division (including one foreman) were ten, fourteen, and twenty (Gardiner et al., 1952 and 1955; Mueller, 1975; Simpson, 1963, 1965, 1969, 1986). However, there were smaller division sizes of nine and four with two supervisors combined into one larger division (Griffith, 1898), so again the size of a division may have been allowed to vary according to the type of task.

The systematic classification by division, phyle, gang, and crew made it possible for the scribes to order and monitor workmen both spatially and temporally. Each gang was allocated a particular space on a project. In the South Cemeteries of Lisht (the reign of Senwosret I; see Arnold, 1990: 19–20), workmen were expected to comply with specific control measures while working on projects, and their work progress was reported upon and monitored by the scribes. Control measures included: (i) output control forms, showing for each workman his location, number of cut stones

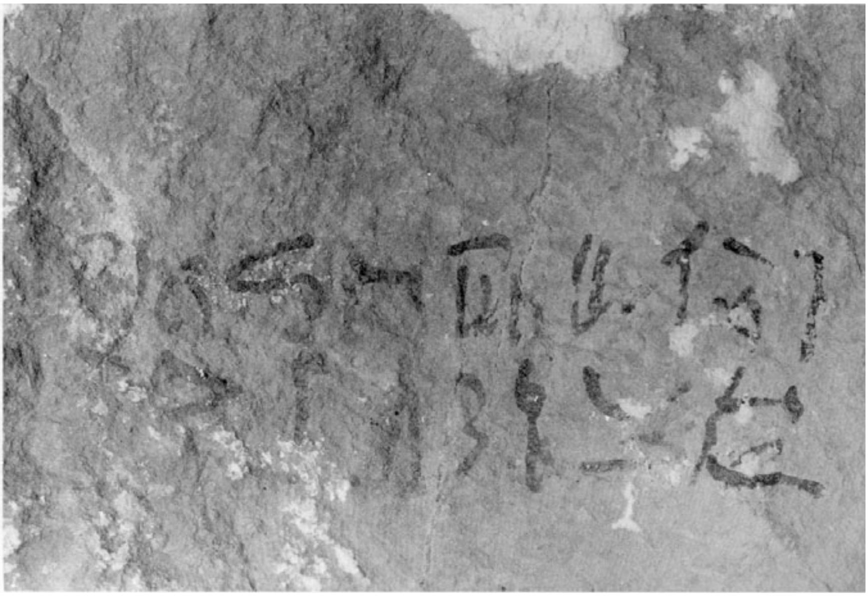
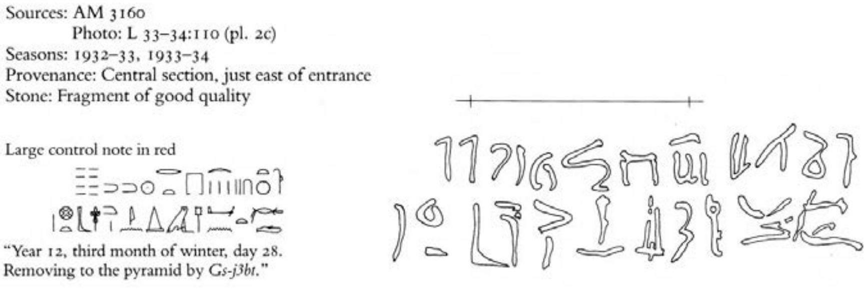


Figure 11.1 A control note.*
Reproduced with permission from the Metropolitan Museum of Art, New York.



Sources: AM 3160
Photo: L 33–34:110 (pl. 2c)
Seasons: 1932–33, 1933–34
Provenance: Central section, just east of entrance
Stone: Fragment of good quality

Large control note in red

"Year 12, third month of winter, day 28.
Removing to the pyramid by *Gs-j3bt*."

Figure 11.2 A control note (translation).*
Reproduced with permission from the Metropolitan Museum of Art, New York.

requested, number delivered, and the remaining balance for every working day; (ii) control notes which provided information about building stones transported; (iii) team marks which identified the group of workmen who completed a particular task; and (iv) inscribed marks on stones to ensure that they were assembled in the right order. Each division had a name, and belonged to a phyle, which in turn was classified under a particular gang making it easy for those in charge to trace responsibility to individual workmen, to check their absence or presence, and to rotate them either individually or in groups.

Control notes were inscribed on undressed building stones during their transportation, and they "provided the account keeping scribes in storage areas with information concerning the date, the stage of transportation, and the workmen in charge of the stones" (Arnold, 1990: 14). An example of control notes is shown in Figures 11.1 (original) and 11.1a (translated) which is unfortunately damaged, but still shows the date of stone moving, where the stones have been moved and by whom. Control notes were written by the scribes accompanying each crew or division of workmen in order to construct the lists of workmen responsible for moving particular stones, the stage of transportation, the location, the appropriate date, and the number of stones delivered compared to that requested, and also in order to assist the foreman or supervisor in controlling his workmen. One stone could carry several control marks depending on who was responsible for it at a particular stage of transportation, for example, from the quarry through transportation places to the ultimate place where the stone was to be used. In Figures 11.1 and 11.1a, the workman involved, *Gs-j3bt* lived near the harbour of the pyramid and was responsible for unloading ships and transporting stones from the embankment (ibid: 19). A number of control notes from the Middle Kingdom analysed by Arnold (ibid: 20–21) show that stones travelled through several stages: quarrying, removal from the quarry, shipping, landing and unloading, and storage.

Each team of workmen was assigned a particular mark called team mark. Team marks were simple signs so that illiterate workmen could memorise and use them to mark the stones for which they were responsible, and they were also used by potters and brick makers. Team marks made it easy for scribes and superiors to trace responsibility for a particular task to the team charged with performing that task, thereby ordering teams by distinguishing them and facilitating monitoring the quality and progress of the work undertaken. A team mark was the 'signature' of a team, its ancient trademark so to speak; it represented the team's identity, its pride and also its sense of responsibility for it advertised the team's achievements and the competence of its members compared to the workmen of other teams. In this manner, team marks also functioned as a means of control and monitoring by providing administrators with evidence on team work and also by acting as a technology of internalizing self-control via their visibility to the self and to others.

Table 11.1 Attendence List—Papyrus Reisner I*

The foreman Inyotef's son Dedu	<a>	<b>	<c>
Oker's son Sobk-hotpe	11	11	
His brother Inyotef	11	8	3
175. Ketiu's son Nedjes	75	42	33
10 *h* Se'n-Worset's son Sehetep-ib	75	46	29
Inyotef's son Nesu-Mentu	75	65	10
10 *h* Ameny's son Nefer-Kha u	75	75	
10 *h* his brother Sefkhy	75	75	
180. Sobk-hotpe's son Nakhti's son Inyotef	11	9	2
Sobek-nakhte's son Mereri	75	60	15
Hedejenenu's son Mer-su	11	11	
Sobk-hotpe's son Anhur- ankhu	11		11
H Nefer-tjentet's son Se n-Wosret	75	55	20
185 <total> <12>	580	457	123

Legend: a = [sum of figures in columns b and c]
b = [days on the project]
c = [days of absence]

The size of a division varied according to whether it was used for work organization or to record distribution of rations. In work organization, it was customary to only count the number of workmen but not the foremen. Table 11.1 shows 12 workmen excluding the foreman Inyotef's son Dedu, without entries against his name as being present or absent, presumably as Simpson (1963: 39) suggests because foremen were permanent and always present; whereas workmen were not and hence were counted daily. What Table 11.1 suggests is that the maximum duration for any workman on this project was 75 days with the majority of workmen serving shorter periods.

Two more examples (not shown here) are of interest. One is the name-list from Kahun (Griffith, 1898, Plate XV: 42) which shows the date, the issuing bureau, the authorizing official, the scribe, and the names of workers responsible for hauling stones. The second example, also from Kahun and kept at the Petrie Museum (UC 32170), is a fragment of three columns from a list of labourers.[2] The list contains names, title 'commander' in red for the first group of 9 men (=10 including the commander); with check marks at the start of each line: a black dot for a workman's presence and a red dot for his absence. Also, for the first time workers' second names are noted; a departure from past practice where only first names were recorded.

When inscribing the distribution of rations the division size was fictitiously fixed by the scribe into an equivalent number of workmen with equal rations so that if the foreman has twice the rations of a workman the division size was increased by counting the foreman as two workmen, as in the payroll from Sinai (Table 11.2).

Table 11.2 Payroll from Sinai*

1 foreman	(and) 20 men	<5 divisions**> =	1[05] men
1 ”	(”) 14 men	<8 divisions**> =	120 men
1 ” of the stone cutters	(”) 10 men	<4 divisions**> =	44 men

** In Mueller’s translation, this is stated as <crews> but <divisions> is used here for consistency (see earlier).

* Source: Mueller, D. (1975), “Some Remarks on Wage rates in the Middle Kingdom”, *Journal of Near Eastern Studies*, Vol. 34, No. 4: 252.

In each of the three rows, the men’s total is calculated by multiplying the number of divisions by the number of workmen and foreman plus one. For example, in the last entry, the number of 44 men was arrived at by multiplying 4 divisions by 11 (nine workmen and one foreman plus one more to make up for the foreman having twice the rations of a workman). This is also evident from problems in the Rhind Mathematical Papyrus (Peet, 1926: 109):[3]

> “Method of distributing (*irt*) 100 bread loaves among 10 men, if the skipper, the crew-leader (*tsw*) [division-leader] and the doorkeeper (receive) double: you add up the people to receive supplies; (that) makes 13. Divide the 100 bread loaves by 13; (that) makes 7 2/3 1/39 (i.e., 7 9/13). Then you say: (this) is the consumption of the 7 men, (while) the skipper, the crew-leader and the doorkeeper receive double.”

The ordering of workers within a hierarchy of groups (crews, gangs, phyles, and divisions), listing their names into rosters, and keeping their attendance sheets was a means of disciplining workmen and foremen. By demarcating workers locations and responsibilities both spatially and temporally, by being able to ascertain their presence and absence, and by observing and recording their effort directly compared to targets, it was possible to impose strict order and discipline on the workforce.

Table 11.3 is compiled from a detailed list of absentee workers from year 40 of the reign of Ramesses II (1290–1224 BCE). The original list is rather long and states by name of each absent workman the days when he did not turn up to work and the reason for his absence. As evident from the table, many days lost to this particular job seem to have been for good reasons, such as accompanying the boss or the scribe on other business, being ill (including the unfortunate incident of one workman being bitten by a scorpion), catering for ill members of the workman’s family, preparing for and burying the family dead, worshiping, or doing other tasks, such as brewing beer or fetching stones for the scribe. The reasons for other absences, however, seem to be difficult to defend, such

Table 11.3 Absenteeism List of Workers, Year 40, Reign of Ramasses II (O.BM 5634)*

Reason for absence	Number
With boss, colleague, or scribe	71
Ill	71
Attending to ill members of family	11
Preparing family member for burial	17
Making offerings to the gods	10
Fetching stone	7
Brewing beer	17
Making up remedies	10
Others [workman's feast (2); scorpion bit him (1); strengthening door (1); building his house (1); absent (5); drinking (2)]	12

* Source: collated from K.A. Kitchen (1996), *Ramesside Inscriptions, Vol. III*, Oxford: Blackwell: 361-368.

as the workman drinking, or working on his house (unless of course this was authorized). Despite the lack of information on actions taken when absence had no good cause, the detailed inscription of every workman's absence and its cause is suggestive of the scribes' strong desire to effectively order and monitor work attendance.

SETTING TARGETS: THE USE OF TIME-VOLUME RATIOS

Targets were set for workmen via a variety of accounting techniques such as time-volume-ratios and conversion ratios, as evidenced from Papyrus Reisner I (Simpson, 1963:126) which shows calculations developed for various stages of brickwork and related materials. Apart from stating the dates of each day, the account shows for physical units the length; width; depth/thickness; and number in addition to the equivalent number of enlisted workmen (ibid: 56). The account covers a number of activities: (i) striking (kneading) the ground, and working on walls, trenches, and corridors; (ii) carrying materials; (iii) loosening clay in the fields; (iv) removing water from the field; and (v) the work of tower builders. By specifying the length, width, and thickness, a unit indicator volume was calculated for every set of activities (not shown here).

The papyrus also shows a detailed list of an assignment for a labour force (ibid: 127), whose aim was presumably to facilitate administering the building project. For each entry, this document specifies the nature of the task performed, the days the task began and ended, the number of workmen employed on the task, the total number of days spent on the task, and the equivalent number of man-days. The entries made cover: (i) downstream and upstream trips; (ii) names of foremen, masons, and bricklayers; (iii) removal of acacia from the river bank; (iv) carrying and transporting items; and (v) erecting interior portals or doorways. It is also possible to calculate the time spent by the overseer of the audience chamber while travelling and while working on the project. Given that the period involved began on the 6th of month IIII in the Peret/Proyet (Winter) season and ended on the 20th of the month II Shomu (Summer), Table 11.4 can be calculated (ibid: 58).

Thus, the overseer spent either 41 or 42 days in transit travelling north and 33 days overseeing the project, in total being credited with 74 to 75 days. This breakdown of time spent between travelling and overseeing the project has spatial and temporal ordering implications. By specifying the location and days spent on and away from each project, the scribes could calculate the total time, in man-days, spent on a project, assess the competence of the overseer, and plan work for future projects.

Detailed accounts such as those discussed here were fed into a summary account (ibid: 128) showing two numbers: the product or volume and/or the equivalent man-days. From this summary account it would have been possible to calculate the values of equivalent metrics for different tasks (Table 11.5).

Simpson (1963: 84) assumes, with no supportive inscriptions, that these equivalence metrics were "fixed on the basis of the weight of the material, the relative difficulty in handling it, the distance it had to be moved, and

Table 11.4 Days Spent on a Project

	DAYS IN TRANSIT	DAYS ON THE PROJECT
J2 from 6-13 IIII Proyet inclusive	8	
J2 to J11 14 IIII Proyet to 7 I Shomu		24
J11 from 8-20 I Shomu inclusive	13	
J11 to J17 21-27 I Shomu		7
J17 from 28 I Shomu to 7 II Shomu inclusive	10	
J17 to J18 8-9 II Shomu		2
J18 from 10-20 II Shomu	10/11	
	41/42	33

Table 11.5 Man-Day Equivalence*

ENTRY	**TASK/ OBJECT**	**EQUIVALENT MAN-DAYS:** ***V/E***	**VOLUME:** ***V***	**EQUIVALENCE METRIC:** ***E***
2	earth rubble	443 ½	4,435	1:10
3	builders	85	381 ½	2:9
4	hauling stone	715	143; 2 palms	5:1
5	carrying (items)	36 ½	183	1:5
6	carrying sand	101 ½	152 ½ ¼	2:3
10	brick	602	39,118	1:65
13	loosening fields (earth)	55 ½	556 ¼	1:10

- *Source*: Based on Simpson (1963: 128)

the speed with which the operation could be carried out." He is effectively suggesting that when determining equivalence metrics the scribes took into account factors that impact the performing of a particular job. The extent to which metrics were fixed over time is not clear from the inscriptions, but their calculation signals the intent of the scribes to monitor diverse activities by collapsing them into one common denominator. Different types of work were converted into additive man-days through the use of the appropriate equivalence metrics.

Table 11.6 Metal Account: Papyrus Reisner II*

9. III Shomu 9								
10. given to the coppersmith Nakhti converted into a single unit								
11.	copper:	axes		2	22	19	Thebes	
							units 1	Sobk-hotpe
12.		axes	units	1	19		units equals	
13.		adzes	units	1	10½		units	Si-Hedjenuwy
14.			units	1	10		units 1	Si-Hepepi
15.		chisels	units	1	20		units 1	
The steward Anhur-hotpe								
16.		equalling					debited to him units 100 ½	

* Source: Simpson, W.K. (1965), *Papyrus Reisner II: Accounts of the Dockyard Workshop at This in the Reign of Sesostris I*, Boston: Museum of Fine Arts: 31.

Further examples on the use of conversion ratios can be found in Papyrus Reisner II. In Table 11.6, an account of the metals delivered to the Dockyard Workshop, the mix of 3 axes, two adzes, and one chisel are aggregated into a total metal weight of 100 ½ *deben* (22 + 19 + 19 + 10 ½ + 10 + 20) delivered by the steward Anbur-hotpe to the coppersmith Nakhti for recasting.[4] As the weights are too small for axes and adzes (but not for chisels), and because of the statement "converted into a single unit" (line 10), Simpson (1965: 31) suggests that these tools were all worn or broken and were weighed together to be added as a single unit of scrap for recasting.

Papyrus Reisner III (Simpson, 1969), early Twelfth Dynasty (1991–1783 BCE), provides an account of the use of other types of ratios and covers the activities of twenty-one individuals over seventy-two days, including stewards, overseers, clerks' agents, and other officials.

Table 11.7 Account of Man-Days*

F 17 *hsbw* 676(*f*)	6760 (*e*)	2040 (*a*)	*sty*
18 *kmtnf m hn dh'*	*hsb*	2	20 (*b1*)
19 *kmtnf m k't dht*	,,	30	300 (*b2*)
20 *kmtnf m shmw*	,,	12	120 (*b3*)
21 *kmtnf m nhy.f*	,,	50	500 (*b4*)
22	total		2980 (c)
23	total		3780 (*d*)

* Source: Simpson, W.K. (1969), *Papyrus Reisner III: The Records of a Building Project in the Early Twelfth Dynasty*, Boston: Museum of Fine Arts: 23.

Table 11.8 Account of Man-Days*

1 Mer-kau	210	2100	1826 ½	273 ½
2 S'ankhi	400	4000	3745 ½	254 ½
3 Sobk-nakhte II	214	2140	1468	672
4 Redi-es-'ankh	280	2800	2477 ½	322 ½
5 Sobk-nakhte I	177	1770	1688	82
6 Iuh	360	3600	3668 (*sic*)	232
7 Total	1587	164[10]	14873 ½	18[35] ½

* Source: Adapted from W.K. (1969), *Papyrus Reisner III: The Records of a Building Project in the Early Twelfth Dynasty*, Boston: Museum of Fine Arts: 29.

In Table (11.7) ***f*** is number of enrolled men or equivalent man-days and *e* is work target expressed as man-days (if ***f*** denotes number of enlisted men) or as man-hours (if ***f*** denotes number of man-days), where (e) = ***f x 10***. Further, *(e)* is corroborated by adding together e = ***a*** + ***b*** + ***d***, where ***a*** + ***b*** = ***c*** denote work completed, and ***d*** is incomplete work. Hence, in table (11.7) work completed is (2040 + 20 + 300 + 120 + 500 = 2980) which when deducted from the work target of 6760 (***e***) leaves 3780 (***d***) as work to be completed. The number of enlisted labourers/man-days (***f***) is converted into an equivalent workload as a target, and at the end of the account period completed work is quantified and taken away from the target to determine the remaining work to be done. In this way, the scribes could: (i) establish quantifiable performance targets expressed in easy-to-understand physical measures of workload; (ii) monitor and quantify work completed at the end of a period; (iii) quantify remainder of work to be completed; and (iv) identify total number of man-days spent on doing any project, which would also be helpful in estimating the number of man-days required for future projects.

Table 11.8 shows the same relationships whereby several individuals are listed with their assigned man-days, work-loads (number of man days x 10), work completed, and work remaining. A glance at this account would have enabled the scribe to ascertain the amount of work completed and the remainder of work to be completed per overseer. Moreover, an overall view of the project, or part of it, entrusted to specific overseers and their work-force could be formed from the totals column on line 7. Simpson (1969: 14, original emphases) suggests that in these accounts:

> "The two related concepts stressed were the *time standpoint* and the matter of *real* figures as opposed to *ideal* figures. The figures should be differentiated when possible as they apply to computations of material and work (past), operations being performed (present), and results to be achieved (future). They must also be distinguished in terms of data (real figures) and calculations (ideal figures). The latter are generally round numbers. The fixed dimensions and their product represent data and belong to the realm of the past. The multiplication of this product by a conversion factor, in one operation to yield the number of man-days, belongs to the realm of the present."

What bothers Simpson about these accounts is that workload targets were invariably rounded off numbers ending always with a zero as a final digit, whereas the sets of numbers representing work completed and remaining are less rounded and frequently with fractions; hence his distinction between the *ideal* and the *real*. Contra Simpson, there is *nothing* unusual about this. Targets are frequently expressed in complete, rounded numbers. In contrast, an inventory of work completed, and by implication work not yet completed, is likely to end up with less rounded figures, given frequent divergences between targets and actual achievement and the *ad hoc* nature of the time chosen to perform the inventory of work completed.

Sanctions

This discussion sought to highlight the ordering of work, with the accounts contained in the Resiner papyri providing the basis for both planning work and rations. Many of these inscriptions show a close relationship between work, time, and place of work. Each worker's presence and absence was noted temporally and spatially, making it possible for the scribes to monitor work attendance in and across time and space. Those who fled from work duties were a disruption to the desired state of order and were punished severely. One Papyrus from the late Middle Kingdom (Hayes, 1955) lists seventy-six residents of Upper Egypt who were held in prison because they absconded without completing, or avoided performing, services required of them by the state. It also includes state directives instructing the prison to deal with those individuals in accordance with the relevant parts of the criminal law, and it also records the execution of penalties and the conclusion of nearly all the cases, for example:

> "(a) The [daugh]ter of Sianhur, Teti,
> (b) (of) the Scribe of the Fields of This,
> (c) woman:
> (d) (An order) was issued to the Great Pri[son] (in) Regnal Year 31, Month 3 of Shomu, Day 9, to release (her people) in the law-court, being (an order issued in order to execute against her the law pertaining to one who runs away without performing his service.
> (e) Here (Check mark).
> (f) Statement by the Scribe of the Vizier, Deduamun: 'it [is] completed.'
> (g) Case closed."
>
> (Hayes, 1955: 64)

This exercise in violence was deemed necessary for restoring order and justice and reaffirming *Maat*. For failure to discharge one's responsibility was a violation of order that had to be undone by violence. Inscriptions of name lists were performative as they incited intended action: unauthorized absence from work was noted and punished because it was classified as a criminal offence committed by the individual against the state. The mere presence of workmen at work was not sufficient to discharge their responsibility; they were demanded to work as hard as possible. In undertaking work duties, labour was ordered, shaped and disciplined by the temporal and spatial dimensions of the time:

> "Workers and their managers went about their daily tasks, the rhythms of their labour shaped by the natural indicators of day, season, and year,

> as well as by the artificial constructs of civil calendar, festivals, the formal length of the work day, and, at least in some periods, regular days off. To paraphrase the words of the poet of the hymn to the Aten, each day, when the sun has risen, the entire land went off to work." (Kadish, 1996: 438)

By showing work targets, the amount of work already completed, and current work in progress, these accounts linked inextricably the past, the present and the future into one integral temporal unity that was differentiated by the periodicity of the intervals of historical (earthly) time imposed for the convenience of producing regular accounting reports that reflected in their regularity the cyclical perpetuity of sacred time *neheh*.

REPORTING ACHIEVEMENT AND WORK IN PROGRESS

The previous discussion shows how the scribes ordered work, determined workload targets, and reported on work progress. The aim of this section is to examine monitoring work progress by considering two forms of reporting: letters and accounts.

Reporting on Work Progress Using Letters

Two types of business-related letters were developed in the Middle Kingdom: model letters and letters dealing with economic activities. Model letters were typically short, and their aim was to teach trainees how business letters should be composed. The Hieratic Papyri from Kahun (the reign of Amenemhet III, 1844–1797 BCE), contain nine letters of this type covering items such as geese, seed, corn, and fruit (Griffith, 1898: 67–70). Letters dealing with actual business typically had four main parts: (i) opening statements from the humble subordinate praising the superior; (ii) a statement stating that all the superior's "affairs are sound and prosperous" by the favour of the relevant deities; (iii) statements raising specific problems faced by the subordinate and seeking advice as to how to proceed, or rendering an account to the superior; and (iv) a closing number of statements praising the superior. Some of these letters were general, simply focusing on parts (i), (ii), and (iv) but without specific requests or numerical rendering of accounts. In general, once work was completed, a departing phyle had to write a report indicating the state of work left for the arriving phyle, and the arriving phyle also undertook an inventory of work status before they started and inscribed this in a report in order to square the circle of human responsibility.

However, in opening up this issue of accountability, a question arises as to whether or not this customary statement of "sound and prosperous" or "safe and sound" was purely ceremonial contributing to a powerful myth that all affairs were in order. Consider a letter sent from a woman to her male superior. The letter begins with the customary "all the affairs of the Master, L.P.H.! [may he live, be prosperous and happy] are sound and prosperous", then asks "what thou shalt do (?) unto the women servants who continue without weaving cloth for the temple" (Griffith, 1898: 75). The woman who wrote this letter acknowledges, and reports, upon failure to complete the woven cloth required and seeks advice as to how to deal with the recalcitrant women and restore order. In this case, at least, the statement "sound and prosperous" was accompanied by details of problems at work.

A more detailed example is a letter (Griffith, 1898: 73–74) at the beginning of which the subordinate Arisu writes to the superintendent Sakaanu initially to inform him that "all the affairs of the Master . . . are sound and prosperous". He then renders specific accounts relating to the timing of his own arrival, three labourers sent by the deputy to accompany another Master normally resident at the work site, a loaded boat, amounts of barley and corn, carpets, and chairs delivered to other agents, 11 labourers who may have to continue working longer to complete their workload, and 5 other labourers who continue to quarry stones. Thus, no specific work-related problems are indicated here.

In summary, inspection of business letters suggests the following. If the letter contains the statement "all the affairs are safe and sound" followed by more specific details concerning work problems, then it may be read as meaning "all affairs except those stated below are sound and prosperous". In this case, the attention of superiors is drawn to those problem areas that require intervention and possibly the use of sanctions. If there is no itemization of problems, then the statement should be taken literally to mean that work was conducted as expected and no remedial action from superiors was needed, of course barring occasions when subordinates deliberately falsified the reports.

Reporting on Work Progress Using Accounts

More detailed reporting on work progress was typically in the form of accounts that showed the total (target) work to be performed, the amount of work actually performed and the remainder to be completed. One example reports on brick making activities in Kahun (Table 11.9) where the total number of bricks to account for (116511) exactly equals the number of bricks made

Table 11.9 Brick Account (Kahun)*

36. Total	116511
37. Particulars of these	
38. Bricks of 5 palms	23603
39. Remainder	92908
40. *under the hand of the zau.n.satu, Senbef*	

* Source: Griffith, F. Ll. (1898), *The Petrie papyri: Hieratic Papyri from Kahun and Gurob, Principally of the Middle Kingdom*, London: Bernard Quaritch: 59.

of two different sizes: 5 palms (23603) and 6 palms (92908); one palm equals 3 inches. Senbef was named as responsible for supervising brick making.

Another example is the rather lengthy official journal account, Kahun III. 1. (Griffith, 1898: 55–58, not shown here) covering various activities, including delivery of grain, distribution of land, and numbers of days worked by each division of men allocated to a project. Although the account covers a period of four months, each division worked only for two months, giving a maximum total of 60 days, which after allowing for four days rest leaves a maximum of 56 working days per division. In some cases the division(s) worked less than the allotted 56 days implying remaining work that had to be completed at a later date.

No matter which of these accounts is considered, the pattern of reporting on work progress is similar. In each case, a work *target* was specified, e.g., number of bricks of a given size to be made, or number of days to be worked. Then, an inventory of *actual* work is contrasted against the *target* allowing a *remainder*, if any, to be calculated. What is notably missing here is any mention of *action* taken by superiors following from these reports either to penalise or reward the workmen, but the absence of such material should not necessarily imply that action was not taken.

ACCOUNTING FOR RATIONS

The concern in this section is the determination and payment of rations to labour. Distinguishing rations from wages in ancient Egypt is problematic. While rations are distributed to dependants, whether or not their labour fully justifies the rations given, wages typically refer to payments due to free labour in lieu of the amount of work performed, the nature of the work undertaken, and the skill level and seniority of the workmen. Wage lists may also be prepared for determining the cost of a particular project without necessarily reflecting payment to workers. Mueller (1975: 262–263) considers wages as payments exceeding expected levels of daily food consumption: thus wages are "structured in a manner approaching our income groups, because they often exceed the daily food consumption of one person, and also because they may have been to some extent convertible. This does not preclude the possibility that 'ration' and 'wage' may have occasionally coincided". This definitional problem is side-stepped here and the term 'rations' is used throughout the book.

Accounting and the Determination of Rations

Table 11.10 shows one of the more complete documents on the administration of rations in the Temple of Illahun, Middle Kingdom (Borchardt, 1902/3).[5] The account records Temple receipts of loaves of bread, and jugs of *sd'* and *hpnw* beer, and their distribution to personnel in precisely

Table 11.10 Temple Ration Distribution

Calculation of this temple's receipts			Loaves of bread	Beer	
				Sd-jugs	*Hpnw*-jugs
List of daily receipts			390	62	172
Brought from the temple of the Sobk at Krokodilopolis			20	1	---
Total			410	63	172
List (?) of sacrifices offered to the dead					
Distributed to the priests of the dead			340	28	$56^1/_2$
Total			340	28	$56^1/_2$
Remainder			70	35	$115^1/_2$
List (? distribution?) of this remainder		Portions(?)	: $1^2/_3$	$^2/_3 + ^1/_6$	$2^2/_3 + ^1/_{10}$
Chief priest and temple director	1	10	:$16^2/_3$	$8^1/_3$	$2[7]^2/_3$
Head lay priest on duty this month	1	3	: 5	$2^1/_2$	$8^1/_5 + ^1/_{10}$
Head reader	1	6	:10	5	$16^1/_2 + ^1/_{10}$
Temple scribe on duty this month	1	$1^1/_3$	: $2^1/_6+^1/_{18}$	$1^1/_9$	$3^2/_3 + ^1/_{45}$
Usual reader on duty this month	1	4	: $6^2/_3$	$3^1/_3$	$11^1/_{15}$
Wtw-Priest on duty this month	1	2	: $3^1/_3$	$1^2/_3$	$5^1/_2 + ^1/_{30}$
Imĩ-ist- -Priest on duty this month	1	2	: $3^1/_3$	$1^2/_3$	$5^1/_2 + ^1/_{30}$
Ibh-Priest on duty this month	3	2	:10	5	$16^1/_2 + ^1/_{10}$
Royal priest on duty this month	2	2	: $6^2/_3$	$3^1/_3$	$11^1/_{15}$
Md w	1	1	: $1^2/_3$	$^2/_3.^1/_6$	$2^2/_3 + ^1/_{10}$
Doorkeeper	4	$^1/_3$	: $2^1/_6+^1/_{18}$	$1^1/_9$	$3^2/_3 + ^1/_{45}$
Night doorkeeper	2	$^1/_3$	: $1^1/_9$	$^1/_2+^1/_{18}$	$1^1/_2 + ^1/_3 + ^1/_{90}$
Temple worker	1	$^1/_3$	: $^1/_2+^1/_{18}$	$^1/_4+^1/_{36}$	$^2/_3 + ^1/_4 + ^1/_{180}$
Total			70	35	$115^1/_2$

denominated amounts. The first part of the account shows temple receipts of bread and beer, divided between those received daily and those delivered from the Temple of *Sobk*, as sacrifices offered to the dead. From these totals for each type of commodity large deductions are made in the form of distributions to the priests of the dead, but without providing any details, presumably because the proportions of distribution were determined by the families of the dead. The remainders represent the amounts to be distributed as rations among the Temple personnel. Here, we see clearly the visible hand of the scribes at work in using differentiated rations for different occupations. The key statistics are those mentioned under 'Portions', which refer to both the horizontal entry in line with it and the two columns immediately below it, reflecting the proportion for a given category of personnel times the number of individuals in that category. By multiplying the two columns under 'Portions' and adding up we get 41 2/3. Both Borchardt (ibid: 116) and Gillings (1982: 124–125) have argued that the writing of the account indicates that another night porter (with an allocation of 1/3 of one loaf of bread) was included, in which case the total portions equal 42. This makes it easy to read the horizontal portions. For example, for bread loaves, 70 times 1/42 gives 1 2/3, the multiplier stated in the account for bread, which is then multiplied by the product of the first two columns to produce the provisions for a group of workmen in a particular classification of rations (third column). Whether the scribe used 42 or 41 2/3 portions, his calculations were only occasionally slightly inaccurate. In the last entry (Total), the scribe matches the total rations paid out with the remainder recorded in the upper part of the account, but seems to have used the upper figures to reach the totals in the last entry in order to compensate for the minor inaccuracies in his calculations. The same procedures are replicated for the two types of beer.

Although the account provides some insight into differential payments to temple personnel, these differentials should be interpreted carefully. A temple worker or a doorkeeper received a very small ration compared to rations received by more senior staff, for example, priests, and temple scribe, temple director. These differentials presumably reflected differences in skills (including literacy and numeracy) and rank. What is more perplexing is that the head lay priest received a payment half that of a head reader. Borchardt (ibid) suggests that this apparent disparity is explained by noting that lay priests had other paid civilian jobs, and this may also apply to the relatively low rations for the scribe. Those employed on a full-time basis in the temple (the temple director, head reader, etc.) received relatively higher rations. Borchardt has also suggested that these rations were supplemented by allocations of other goods, such as meat and vegetables, and that the priests employed for the cult of the dead could have received some of the goods deducted from the temple's receipts.[6]

There are several other sources which make possible the construction of a more complete picture of payments to state personnel in the Middle Kingdom. These sources include the Reisner papyri, The Inscriptions of Sinai, Papyrus Bulaq 18, and the Inscriptions of Siut. The Reisner papyri cover rations paid to the labour force working on various Royal projects;

Table 11.11 Labour Wages Account: Papyrus Reisner I, Section 0*

	12 trsst	days		12 trsst	days	11 trsst	days		days trsst		[days trsst]			days trsst	
1. Year 24, II Shomu 21;	(1st period)			(2nd period)		(3rd period)			4th period)		(5th period)			(6th period)	
2. List of enlistees who are in This.															
3. Nakhti's son Se'ankhi-nedjes	12	94		12	80	11	80		12	88	10	80		15	120
4. Sen-mutef's son Se'n-Wosret Redi-wi-Sobk	10	7 56		12	96	11	244				10	80		15	
5. Senbebu's son Se'n-Min	12			12	88	11	80		12	94	10	80		15	120
6. Se'ankhi's son Anhur-nakhte	12	8 64		12	88	11	80		12	62	10	80		15	80
7. Wosre's son lkeki	12	2 80		9 3	72	11	88		12	48	10	80		15	120
8. Senet's son Kemni	12	94		12	96	11	88		12	80	10	80		15	120
9. Iri's son Mentu-hotpe	12	80		12	88	11	88		12	88	10	80		15	120
10. Renef-'ankhu's son Si-Anhur	12	\	Nakhti	12	88	11	56		12	88	10	80		15	120
11. Hedjenenu's son Gem-mutef	12	94		10 2	80	11	88	Wehemy	12	88	10	80	Si-nefer	5	40
12. 'Ankhu's son Anhur-nakhte	12	90		12	84	11	88		12	92	10	80		15	120

13. Inyotef's son Sefkhy	12	94		12	96		11	88	12	80		10	80	15	120
14. Sobk-wosre's son Sobk-nakhte	12	94		12	96	60	11	88	12	88		10	80	15	130
15. Sobk-nakhte's son Sobk-nofre	12	94		12	96		11	88	12	92		10	80	15	120
16. Nakht-'aa's son Nakht-tjen	12	94		12	96		11	88	12	92		10	80	15	120
17. Sobk-nakhte's son Shemai	12	94		9 3	72		11	88	12	88		10	80	15	120
18. Se'ankhi's son Sobk-hotpe	10 2	80		12	96		3 8	24	\	\					
19. Irne's son Yu	12	94		12	96		11	88	12	84		10	80	15	120
20. Se'n-Wosret's son Sehetep-ib	12	94		12	96		4 7	32	\	\					
21. Ameny's son Nefer-kha'u	12	64	Merer-nedjes	5	40		\ 11		\	\					
22. his brother Sefkhy	12	94		12	96		\ 11		\	\					
23. total	26	1610		8	1546(?)		47	1564		1530	100		1280		1710

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* Source: Simpson, W.K. (1963), *Papyrus Reisner: The records of a Building Project in the Reign of Sesostris I*, Boston: Museum of Fine Arts: 131.

one example is Section 'O' of Papyrus Reisner I (Simpson, 1963: 43–46 and 131) shown in Table 11.11.

The document begins, as usual, with the day, month, and year of the beginning of the project to be accounted for[7], followed by rations paid to a list of 20 workmen, who worked at a place called This over six periods of varying lengths (from 10 to 15 days), reaching a maximum of seventy-two days per workman. Although the 'basic ration' is not constant across all individual workmen or for the same workman over time, the most frequent 'basic ration' is eight units (loaves) of *terseset* bread. For every workman, this 'basic' (or an alternative ration) is multiplied by the number of days worked by him to arrive at the total pay for the length of period worked. In some entries, for example, lines 5 and 10, first period, the number of days entered is 12 but no payment was made, presumably because the workman was absent as indicated by the diagonal stroke in the original document. In other cases, for example, line 18, first and third periods, the number of days worked is stated (in black ink) first followed by the number of days for which the workman was absent (in red ink, hence the underlining in the translation to signify this), and the pay is then the product of the number of the days worked and the 'basic ration'.

Simpson (1963: 44–45) has attempted to explain the variations in the 'basic ration' across workmen and time. Given that even for the same workman the 'basic ration' was not constant, any variations across the six periods cannot be satisfactorily explained as reflecting difference in status. Similarly, given that in at least some cases the same workman received the same 'basic ration' for all six periods, any differences that may be observed for others across time cannot be simply explained as being a function of variations in the nature of these periods. Accepting that eight *terseset* units of bread were probably the 'basic rations', Simpson (ibid: 45) surmises that variations from that occurred because "deductions were made in certain cases. These deductions may reflect his [a workman] having worked less than a full day, the withholding of advances made to his account, or penalties levied against him." While plausible, this argument lacks supportive evidence. Nonetheless, we can safely assume that some notion of a 'basic ration' was at work there:

> "The significance of the section [O] lies in the nature of the apportionment of *terseset*-loaves to the men on the basis of the length of time they worked. Since the rations are usually issued in terms of bread and beer, and since no other ration list occurs in the document, one has the distinct impression that the *terseset*-loaf is used as a unit of value for compensating the men." (Simpson, ibid: 46)

Evidence from Papyrus Reisner II (Simpson, 1965: 32–33) supports the basic ration notion. In one part of Section K (lines 47–50), there are a number of entries which show payments in bread loaves and beer. The number of equivalent working days is multiplied by the 'basic ration' as

Table 11.12 Rations Account: Sinai Inscriptions*

			Hf’-Loaves	Various Bread	Various Wine	Beer
Foreman 1,	20 men,	100 men,	1	4	1	
	14	100 men	2	6	1	
Stone cutters	10	64 men	4 (?)	8 (?)		
Remainder of young troops	10	151 men	2 (?)	9 (?)		

* Source: Gardiner, Sir A.H., Peet, T.E. and Černý, J. (1955), *The Inscriptions of Sinai, Part 2: Translations and Commentary*, London: Members of the Egypt Exploration Society, Vol. 45: 138.

bread units (loaves) which consisted of three levels: ten loaves, fifteen loaves, and twenty loaves. The payment of beer ranged between ½ jar and one jar per man per day, with the men receiving one full jar per day being invariably those paid the highest wage in bread (twenty loaves). Unlike the more random pattern of variation in rations in Papyrus Reisner I, there is a more systematic pattern of variation here which may indicate differences in seniority or status.

The Inscriptions of Sinai (Gardiner et al., 1952; Mueller, 1975) have three characteristics with parallels in other rations documents (see Table 11.12). First, the scribe used ‘basic ration’ multiples to differentiate payments to personnel occupying different positions. Second, payment was made not only in bread and beer, but also in other commodities. Third, two different types of payment were used: regular payment (*‘qw*), which is treated here as equivalent to rations, and occasional (*fq’*) payments which could be equivalent to ‘rewards’.

The basic daily ration unit was ten loaves of bread (compared to the eight loaves in Reisner I) and two jars of beer, which is consistent with Reisner II and ‘evidence’ from literary sources relating to the same period. In the story of the ‘Eloquent Peasant’ (Simpson, 1973: 36), once the peasant Khunanup had completed his first speech in his petition against a miscarriage of justice, Pharaoh Nebakure gave him a daily allowance of ten loaves of bread and two jugs of beer. While the Inscriptions of Sinai provide strong support for the use of a ‘basic ration’ per workman, they do not show the multiples that may have been used to reward individuals of different skills or ranks. An example is the Wadi Hammamat Inscriptions (Goyon, 1957: 19; see Table 11.13).

Table 11.13 Rations for the Wadi Hammamat Expedition*

Account of food for these personnel for the period covering the duration of this work: 30 days.

The Inspector General of the battalion of the recruits of the navy and Commander of the Infantry:

The Herald Ameni: 200 loaves, 5 measures of beer

The Greatest of the Ten of Upper Egypt: 100 loaves, 3 measures of beer

Follower of King LPH: 30 loaves, 1 measure of beer

Mayor: 100 loaves, 3 measures of beer

The Head of the troop and the quarrymen of the Necropolis [The Commander Sankh-Ptah]: 100 loaves, 3 measures of beer

Steward of the Great Board: 50 loaves, 2 measures of beer

Steward of the Treasury: 50 loaves, 2 measures of beer

Scribe: 30 loaves, 1 measure of beer

Royal Retainer and Chamberlain: 30 loaves, 1 measure of beer

Seal Bearer: 15 loaves, 47/60 measure of beer

Guardsman: 15 loaves, 47/60 measure of beer
Hunter: 15 loaves, 47/60 measure of beer

Craftsman: 20 loaves, 1/2 measure of beer

Unskilled Worker: 10 loaves, 1/3 measure of beer

All supplies originating from the King LPH.

All chosen pieces of meat and poultry from the Supply Magazine of the King, LPH.

The hides, carts, anointed resin sandals and all things necessary for the works of all functions of the Royal Administration from the Treasury of the King, LPH.

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* Source: Goyon, G. (1957), *Nouvelles Inscriptions Rupestres du Wadi Hammamat*, Paris: Liberairie D'Amerique et D'Orient Adrien-Maisonneuve: 19, translated from French by Adam Ezzamel.

This part of a longer inscription, referred to in Chapter 10, was written by the herald Ameni, leader of a mining expedition (G. Hamm, no. 61) in the thirty-eight regnal year of the reign of Senwosret I (1971–1926 BCE, early Twelfth Dynasty as in the Reisner Papyri). The expedition included more than eighty officials divided into thirteen categories, who were in charge of a labour force of 18,660 workers; 17,000 unskilled workers; and 1,660 skilled workers, divided into thirteen groups of occupation.

Table 11.14 Ration Multipliers: Sinai Inscriptions

OCCUPATION	DAILY BEER LOAVES	MULTI-PLIER	DAILY BEER UNITS	MULTI-PLIER
1. Unskilled Workers:	10 loaves	1	1/3 unit	1
2. Seal Bearers, Guardsmen and Hunters:	15 loaves	1.5	47/60 unit	2.35
3. Craftsmen:	20 loaves	2	½ unit	1.5
4. Royal Retainers, Scribes and the Chamberlain:	30 loaves	3	one unit	3
5. Stewards of the Great Board & Treasury:	50 loaves	5	2 units	6
6. The Greatest of the Ten of Upper Egypt, Mayors, and The Commander Sankh-Ptah:	100 loaves	10	3 units	9
7. The Herald Ameni:	200 loaves	20	5 units	15

Determining the appropriate rations for such a massive expedition force and its diverse ranks would have required high scribal skills and accounting technologies that matched such complexity. With thirteen official ranks, thirteen more labour ranks, and the official position of Ameni, the leader of the expedition, there are twenty-seven possible ration-scales. The question now is: how did the ancient scribes handle this challenge? Table 11.13 shows only fourteen groups of personnel having been given rations using only seven ration categories. Table 11.14 shows not only the bread and beer rations per category of personnel, but also the multipliers used in each case assuming that the ration levels for the unskilled workers represented the 'basic ration'.

A number of observations emerge from Table 11.14. First, some professional occupations were considered of equivalent ration worth; for example, retainers, scribes, and chamberlains; this partly explains why only seven pay categories were used. Second, several other groups do not appear in the ration list; in particular the male secretaries, the police officer, the stonecutters, the rowers, the quarrymen, the sandal-makers, the brewers, the millers, the bakers, and the butlers. Third, the craftsmen who appear on the ration list are not mentioned in the roster, and the scribes of the Great Board and of the Treasury as distinguished on the roster have been grouped together.

One possible explanation for the absence of a number of groups of personnel from the ration list is that their payments were recorded in a separate document, but this is not a convincing explanation for two reasons. First, there are no compelling reasons why these groups would have been treated separately from those mentioned on the ration list. Second, there is no evidence of other absent ration documents from this expedition. Mueller (1975: 257) suggests that the way the scribes of the Great Board and the scribes of the Treasury were grouped together into one ration band offers an important clue: “The scribe who drafted the document has apparently omitted from the wage [ration] list all members of the expedition whose wages fell into a category already represented by men of a different profession but with the same income.” Hence, the entry for craftsmen on line 3 in Table 11.14 includes at least some of the groups in the roster not stated explicitly in the ration list, such stonecutters, quarrymen, and sandal-makers.

Of more importance are the implications of the differential rations of bread and beer and their significance for understanding methods of determining rations. It is clear from Table 11.14 that rations given to the unskilled workers were the lowest for members of the expedition. A pecking order is established in the Table, whereby the multiplier for bread and beer rations is increased gradually as skill levels or hierarchical positions increase. The multipliers for bread and beer reach their maximum in the case of the leader of the expedition Ameni, being twenty for bread and fifteen for beer. So it appears that the scribe simply used the product of multiplying the ‘basic ration’ by the appropriate multiplier to determine the ration for each particular group of personnel. A scale of rations sensitive to, and indeed reaffirming and reproducing, rank/title/function was established via accounting metrics that created an orderly schema by which *Maat* as justice was thought to be upheld. On the one hand, the lowest ration denominator had to be of sufficient level to secure ‘reasonable’, not to say ‘comfortable’, survival of members of the lowest ranking group thereby signalling that *Maat* affirms the right of the lowest paid to gain sufficient subsistence in return for their effort. On the other hand, the fine grading of the ration system ‘fixed’ each person in a particular group, be it a workman, a scribe, a foreman, a supervisor, or an administrator, in a specific rank deemed commensurate with the occupational standing of the individual, a grading system in which *Maat* was translated into an occupational order that ensured just reward for seniority or skill levels and that differentiated clearly between ranks.

Here, accounting inscriptions played a variety of major roles. First, through a careful enumeration of rations, sometimes reaching large fractions (e.g., the 47/60 measure of beer) or very small fractions (e.g., the 1/100 measure of beer), the scribes can demonstrate to higher ranking administrators, and also to those directly affected by the allocation, the robustness and accuracy of their calculus. Second, the differential multipliers may be taken to signify the importance of the tasks entrusted to a particular group, so in very crude terms we may say that, at least in terms of rations, the task of the leader of the expedition is judged to be twice as important as that of a mayor, and twenty times as important as that of an unskilled labourer.

Linking rations to role or function was a means of demonstrating fairness and doing *Maat*, yet at the same time it was a form of symbolic violence felt by those shown by the accounting calculus to be of less worth compared to others. Third, this pecking order constructed by the accounting inscriptions of rations may assume broader social significance, in terms of social differentiation across different classes of titles and occupations in society. Even if such differentiation predated the intervention of accounting, the rations multipliers accords them greater visibility and concreteness. The intervention of accounting calculations and inscriptions in the determination of rations constructs a myth of an orderly world where everything seems to be carefully judged and planned for.

From a pragmatic perspective, one may wonder what difference it would have made for the unskilled labourers in the Wadi Hammamat inscriptions to have been each paid ½ a measure of beer instead of the 1/3 measure allocated, or for the seal-bearers to have been each allocated 3/4 of a beer measure instead of the 47/60 of a beer measure. But such speculation completely misses the point. We are not here in the presence of pedantic scribes who were obsessed with an exercise in number crunching. Rather, we observe a system of accounting and accountability that seeks to construct and reproduce a reality of order throughout activities performed for the state, such as mining; one that ensures a measure of reciprocity across different occupations and ranks, and also, perhaps more importantly, a socially embedded, well ordered ranking system where each occupation and rank have to be allocated symbolically their places and spaces in the hierarchy of social order.

Determining Rations and the Mode of Provision

The details of the multipliers and the levels of provision in terms of bread loaves and beer units raise three questions. First, why did the multipliers for bread and beer differ in some cases for the same group? Second, why did the scribe make use of such inconvenient multipliers, such as the 2.35 beer multiplier for the seal bearers, guardsmen and hunters (47/60 beer unit!)? Third, given his presence with the expedition away from his family, could a single man, like the leader Ameni, on his own have consumed 200 loaves of bread and five units of beer daily?

It has been suggested that the lack of symmetry between the multipliers for beer and bread for the same group could be explained by differences in the measures used or the quality or dilution of beer (see Mueller, 1975, footnote 36: 257). While this may be a plausible explanation, it is not entirely convincing, for the same argument could be made in the case of bread, which could differ in dilution, weight, and size (see Chapter 13). Alternatively, Mueller (1975: 259) suggests that the explanation lies in the use of bread and beer to determine rations rather than to necessarily signify the precise method of provision; hence fractions such as 47/60 were "merely mathematical units indicating the value of the shares, not the actual rations."

Mueller marshals other arguments to support his view, for example, the use of fractions of cattle for taxation purposes in Illahun (ibid: 259), and suggests that the much higher rations calculated in bread and beer for more senior officials (such as Ameni) were not made in only bread and beer to be consumed there and then. Rather, a provision of the equivalent value of rations was made in different commodities. One possible objection to the explanation offered by Mueller is that, even for senior officials where rations were high, provisions could still have been made exclusively in bread and beer not for immediate consumption, but for a combination of consumption and exchange for other commodities such as meat, vegetables, etc. In this sense, bread and beer would have simply functioned as a 'money of account' or a unit of value. In which case, once a person has received his rations in equivalent bread loaves and beer units, he could exchange parts of it for other goods. Such an explanation was considered briefly by Mueller (1975: 260) when he states: "the bread-and-beer allowances of the Middle Kingdom were also convertible into 'objects of all kind.'" He (ibid: 261) discusses the entries made by Ameni immediately below the ration list, which refer to "joints (*dpw*) of meet and fowl from the Storehouse of the Lord, with skins, crowbars, sandals greased with myrrh, and all other utensils for the activities of every department of the Royal Palace (coming) from the Treasury of the Lord." Mueller (ibid: 261) then points out that:

> "Here, however, exact figures are conspicuous by their absence. This is most easily explained if the meat rations came out of the bread-and-beer allowance: if the worker "paid" for his meat with some of his bread, the value of the rations listed in the preceding section would not have been affected by the delivery of meat and fowl from the storehouse, and the respective quantities could be passed over without impairing the accuracy of the calculations involved in determining the labor costs."

This, Mueller would argue, casts doubt upon the payment of rations in only bread loaves and beer jugs.

A stronger clue to the method of provision that Mueller does not refer to is the extent to which the number of loaves of bread and units of beer required for providing provisions for the whole expedition for one day could be produced by the bakers and brewers who accompanied the expedition. To explore this possibility, consider by way of example the case of bread, with the same argument applying equally to beer. Based on the rations of bread loaves shown in the pay list, the total number of loaves that had to be baked daily if payment for bread rations was to be made in bread alone can be calculated. For those groups mentioned in the roster but not stated explicitly in the ration list, assume that they were given provisions at the same rate as the craftsmen on line 3 (20 loaves of bread each). This may be questionable across groups, because it is probably more accurate to assume that the rowers would have been given ten or fifteen loaves each whereas the police officer and the male secretaries may have required a different rate compared to the craftsmen, but the effect of this approximation on aggregate rations is likely to be negligible, given that precise ration rates are known for the majority of members of the expedition.

On this basis, 201,010 loaves of bread would have been required daily. The expedition had twenty bakers, twenty brewers, and twenty millers; so assume that the millers were divided between the brewers and the bakers, say on equal basis. But it is the number of bakers that really matters to the calculations. With over 200,000 loaves of bread required daily and twenty bakers, each baker would have had to produce more than 10,000 loaves daily. Assuming a working day of ten hours, target production per baker per hour would be 1,000 loaves. This seems impossible. Drawing on evidence from the New Kingdom, in the bakery accounts translated by Spalinger (1986) and Kitchen (1993), dating to the reign of Seti I, the baker *Djdja* produced 602 loaves of bread in a whole day (see Ezzamel, 1997: 579; also Chapter 12). Even allowing for all kinds of reasonable inaccuracies in the initial calculations, and possible differences in size and quality of bread, and in baker productivity, a daily target of 10,000 loaves per baker would have been impossible to achieve. We can therefore be confident that the bread provisions in the ration list could not have possibly represented actual daily provisions for direct consumption there and then but rather the *value* of rations converted into bread and beer as common denominators or 'monies of account'.

In summary, the ancient scribe worked with the notion of a 'basic ration' that was then combined with the appropriate multiplier to determine the total pay for an individual with a particular skill or rank. However, the 'basic ration' did not appear, nor did it necessarily need, to be universally fixed. So in comparison to the eight loaves mentioned in Papyrus Reisner I, we encounter ten loaves in Papyrus Reisner II, The Sinai Inscriptions, and The Wadi Hamamat Inscriptions.

In considering these various ration scenarios, it is appropriate to locate them in the broader nexus that involves on the one hand rationality, centralization, and bureaucracy, and, on the other hand, account keeping, ratios, and rations. Within the social order of ancient Egypt, the state was expected to observe *Maat* in dealing with its subjects. Accounting expertise was mobilized by the scribes to determine a basic ration and the multipliers that provide for a reasonable living for those with the lowest ranks and more for those above them. Securing a minimum level of subsistence depended upon deriving appropriate *rations* that ensured human survival. Ensuring that those occupying differing ranks are differentially rewarded required that *ratios* reflecting such hierarchical differences are developed and actioned. The notion of *ratios* also was required to establish exchange equivalence between different commodities, say bread and meat. Accounting expertise was at the heart of this exercise, generating both *rations* and *ratios*, applying them to the appropriate economic domain, and the inscribing of these activities in accounting journals was performative in producing these inscribed rations in actual provisions. In doing so, the scribes provided an indelible record, a collective social memory, and a conscious archive that rationalized and legitimized the activities of others including, importantly, the scribes' occupational expertise. This formed a tripartite in which some notion of '*rationality*' (most likely not similar to modern notions of rationality', *ratios* and *rations* became strongly intertwined. Drawing on these ratios and ration lists, the scribes discursively inscribed members of the expedition with each allocated his specific rations, and also rank; an affirmation of social and occupational place, but also an act of symbolic violence for those shown to be worthy of only small rations.

MAJOR DISORDERS: THE STRIKES IN DEIR EL-MEDINA

A set of remarkable incidents occurred during the reign of Ramesses III (1194–1163 BCE): the necropolis workmen refused to go to work on royal tombs on several occasions because they did not receive their rations. The strikes occurred in the necropolis village of Deir El-Medina which housed elite scribes, artisans, and craftsmen who worked on royal tombs. In these major disorders, accounting and its artisans, the scribes, were at the centre of the conflict. Several inscriptions suggest that during the last years of the reign of Ramesses III delays in the payment of rations became frequent. A letter dated to the 29th year of the reign of Ramesses III written by the scribe Neferhotep to the Pharaoh, the superintendent of No, and the Vizier To, states:

> "We are exceedingly impoverished. All supplies for us that are (from) the treasury, that are from the granary, and that are (from) the storehouse have been allowed to be exhausted. Not light is a load of *dn*-stone. Six *oipe* of grain have been taken away from us besides to be given to us as six *oipe* of dirt.
>
> Let our lord make for us a means for keeping alive. Indeed we are dying besides. We do not live at all. It (i.e., the means of keeping alive) is not given to us in (the form of) anything whatsoever."
>
> (O. 16991, Oriental Institute Museum, Wente, 1961: 255).

Notwithstanding the exaggeration in the letter 'we are dying besides. We do not live at all', for a scribe to write to the Pharaoh in this manner signalled serious dissatisfaction by the workmen. Matters must have got even worse, for another scribe wrote:

> "Year 29, II, 21. This day, the scribe Amennakht announced to the crew, saying, "Twenty days have elapsed in the month, and rations have not been given us." We went to the Mansion of *Dsr-hpr-imn* in the House of Amon. One brought 46 bushels of emmer. One gave it to

> them on II, 23. One promoted the vizier to be the vizier of the land of Upper and Lower Egypt."
>
> (O. 10633, Berlin, Edgerton, 1951: 137).

In these two inscriptions, the scribes noted the failure of delivering rations using monies of account (*oipe*; bushel/*khar*) to indicate the precise amounts and values of the rations relevant to the strikes. Delay in delivering rations pegs the question of what delay actually means. In a comprehensive study of ration deliveries to the village of Deir El-Medina, Mandeville (2010) demonstrates that arrears in delivering rations was not uncommon (indeed, in Chapter 9 we have encountered not infrequent delays in the delivery of rations to the temple of Néferirkarê-Kakai), so why did the workmen take exception to arrears in this case and go on strike? Mandeville seems to suggest that as long as rations were delivered in the same month, rather than on the specific day to which their allocation belongs, this was acceptable. Thus, although technically speaking if rations were not delivered on their precise due date from an accounting perspective that would be considered 'arrears', in practice there was a tolerance level that could extend to the end of the month in which the rations were due. The implication then is that in the case of the strikes arrears in rations were over a month due. The royal treasury must have been in a dire state, as the complaints about lack of provisions for the village community continued for at least half a year (ibid: 138). It was about seven months after the previous inscription that a scribe wrote the Turin Papyrus (now known as the Strike Papyrus) concerning the strikes.

In year 29 (of the reign of Ramesses III), the workmen went on strike three times (see also Janssen, 1979b), mostly in daytime but at times at night carrying torches (Haring, 1997: 270). In the sixth month, day 10, the workmen began their strike, stating 'We are hungry: eighteen days have elapsed in the month (presumably without rations). And they sat down [at] the rear of the Mansion of *Mn-ḫpr-re* (the memorial temple of Thutmoses III)' (ibid: 139). During the next two days, the men continued their strike, setting down at the memorial temple of Ramesses II. Sensing the seriousness of the strike, on day 12 the chief of police Mentmose offered to bring the mayor of No to see the workmen. The men complained to the mayor, the scribe Hednakht and the temple priests that they have gone on strike because of hunger and thirst, due to the failure of the officials to deliver rations of clothing, ointment, fish, and vegetables. To placate the strikers, the officials immediately gave them the rations of the fifth month. On day 17 of the sixth month, the following rations were also delivered: 'The chief artisan, 7 2/4 bushels; The scribe, 3 ¾ bushels; Eight men, each one 5 2/4 bushels, making 44 bushels' (ibid: 144), thus the majority of the workmen received no rations. But because of receiving these provisions, the workmen agreed to go back to work.

However, the workmen went on strike again in the seventh month. The Pharaoh's officials, including various chiefs, officers, and some scribes, instructed the workmen to go back to work but the workmen refused: 'We will not return, tell your superiors'. Now the stakes rose as the stated reason for the strikes was no longer a matter of hunger but because 'We have an important statement to make. Verily, evil is done in this place of Pharaoh' (ibid: 140). 'This place of the Pharaoh' meant the necropolis village of Deir El-Medina, the latter a modern name that replaced the ancient name of 'The place of *Maat*' or 'The place of order'. The workmen felt that failure to deliver their rations was tantamount to 'evil' or disorder, and this was a justifiable enough reason for them to go on strike. On the 28th day, the eighth month, the vizier To arrived to speak to the workmen, who were on strike. He gave them half the rations because 'if it happened that there was nothing even in the granaries, I have given you that which I have found' (ibid: 141). The vizier To was therefore appealing to the striking men to be understanding because the Pharaoh's granaries (his reserve banks) were virtually empty. On the second day of the ninth month the workmen were given two bushels of emmer provisions for that month, but on the 13th day of the same month the workmen were still on strike, because they felt the deliveries were meagre, and complained to the mayor as he passed by. The mayor in turn lamented them for continuing with the strike, saying he had already given them emmer for sustenance until Pharaoh gives them their full rations. However, Janssen (1979b: 306) demonstrates from another inscription that 'the situation of the workmen did not improve immediately after the third strike at the end of year 29.'

The claim made by the workmen initially that they were hungry and thirsty was an exaggeration, for there is evidence of them having significant spare resources and also of buying 'luxury' items that people threatened with hunger could not afford (Romer, 2003: 119–121). Rather, it seems that the workmen were aggrieved because they were ignored and saw failure to deliver their rations as an inversion of existing social order: "We may detect in the men's actions all the indignation of those who felt entrusted with deep secrets and grave responsibilities, yet despite this had been forgotten by their masters. Don't forget us, they seem to be saying, for we are part of your wider fortunes in the royal administration; loyal servants we may be, but we demand your proper attention" (ibid: 121). This argument is reinforced by the workmen's statement in the previous paragraph as they now deny that they are hungry but rather they: 'have an important statement to make. Verily, evil is done in this place of Pharaoh'

Out of this disorder came not a return to the exact state of order that had prevailed before the strikes, but to a new order. New configurations of social relations emerged to underpin the new state of order, in which adjustments to the roles of some members of the community took place. Notably, the senior scribe Amenakhte and the foreman Ankirkawi lost out as new social bonds formed post the strikes. Up until the early parts of the strikes, these two individuals were the spokespersons on behalf of the community. As the strikes continued, and presumably fearing for their privileged positions, Amenakhte and Ankirkawi completely took the side of the authorities and broke ranks with the rest of the workmen. Amenakhte told the striking men they were unreasonable in their demands and threatened to take them to court if they continued with the strikes, and Ankirkawi withdrew his earlier support of the strikers. As a result, new spokespersons for the workmen emerged as replacement to these two officials. Further, a major change in administrative arrangements took place to remedy the situation. The Theban High Priests of Amun became the control conduits between the scribes reporting on work progress and the vizier, and also took charge of delivering rations (Romer, 2003: 124–125). Unfortunately later inscriptions do not show what impact this seeming diminution in the role of the chief scribe Amenakhte had on accounting in Deir El-Medina.

These strikes were by no means the only ones ever to take place in ancient Egypt. Haring (1997: 271–272) comments on other strikes that occurred after the reign of Ramesses III, in particular during the reigns of Ramesses IV and Ramesses IX. Under the rule of Ramesses IV, deliveries of rations to the necropolis workmen were late again and the men went on strike. Their case was heard by a committee made up of priests, royal butlers, royal granary chiefs, and scribes of the *Maat*, among others and their complaint was found to be justified. In the case of the strikes during the reign of Ramesses IX, the reason was apparently the concern of the necropolis workmen over the increased presence of foreign workers (ibid: 271). In this case presumably the workmen were anxious about the security of their jobs. In both these cases, as was the case in the previous strikes, the cause of the strikes was linked to payment of rations or concern for job security which may have been judged to jeopardise future rations, with accounting technologies making this calculation both possible and visible.

In summary, even in ancient times, accounting calculations visualized the rations that each of the workmen was given a right to, thus providing a basis on which comparisons could be made between not only the quantities received and the theoretical entitlements, but also the *timing* of delivering provisions. It was because the workmen had knowledge of their ration entitlements and the actual amounts given to them as enshrined in accounting inscriptions that it was possible for them to complain about insufficient and untimely ration deliveries as unjust and disorderly. Armed with this knowledge, they felt they had the right to go on strike until order is restored. The inscribing in accounting entries of the theoretical provisions promised by the Pharaoh's administration was performative, because it constituted a specific measure of responsibility towards the workmen that had to be fulfilled. It was a disciplinary discursive practice that created a burden for the administration and an expectation for the workmen: as long as the workmen turned up to work they earned the right to receive timely and correct amounts of rations as inscribed in accounting entries.

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The aim of this chapter was to examine the variety of roles played by accounting inscriptions in ordering and making possible forms of work organization in ancient Egypt. The inscriptions point to a major role played by accounting technologies, in conjunction with administrative procedures. The identification in rosters and name lists of individual labourers by name, along with the foreman, the recording of their daily attendance and absence from work, and the measuring and reporting of achievements made ordering and monitoring of work activities possible. The foreman and his division were a locus of accountability, a focal space for scribal measurement, inscription, and reporting, and an entity whose location was delineated both spatially (by project and place) and temporally (by specific day, month, year; temporal targets; and periodic measurements).

The partitioning of large work forces into a hierarchy of units, ranging downwards from crews, through gangs, phyles and ultimately to divisions provided a neat way of ordering, aggregating and disaggregating labour as scribes saw fit. A pyramid of cascading work organization was established via this ordering procedure, where for each level there was precise knowledge of the reporting levels below it and above it. Accounting inscriptions also made possible the tracing of responsibilities to the appropriate levels. Through the intervention of accounting technologies, each level in this work hierarchy was converted into a quantity that designated a particular standing in the occupational and social order of society.

This translation of various work activities undertaken by groups of individuals into accounting numbers susceptible to more detailed and thorough analysis was undertaken by the scribes who were knowledgeable of the possibilities that the accounting craft can facilitate. Allocated tasks were quantified as pre-determined targets of performance. While there is no evidence on the permutations used to develop these targets, there is sufficient consistency across inscriptions to assure us that a systematic method was deployed by the scribes to calculate targets. Targets were set in weights, specific time-volume ratios, and other conversion ratios. But the notion of time emphasized in these inscriptions was not ‘timed labour’, the concept associated with industrial capitalism; rather, it was much closer to ‘task orientation’ (Thompson, 1967: 60–61). Concern was with ensuring that a particular task was completed, rather than with meeting time targets, such as those enshrined in modern time-and-motion studies. Yet, far from suggesting a primitive or indiscriminate use of these ancient time-volume ratios, the inscriptions strongly point to careful differentiation by the scribes according to the nature of the task at hand, as evidenced, for example, in the judicious use of different division sizes for work organization compared to those used for the purposes of determining rations.

Concern with accountability meant that actual achievements were compared periodically against pre-specified targets. Scribal expertise was put to the test in the preparation of accounts that inventoried actual achievements, compared achievements against targets, and signalled differences between them. Not only would it have been possible from these accounts to identify work carried forward to be completed during the following period, but the competence of a division or its foreman in carrying out assigned tasks could be assessed. By coding workers spatially and temporally, their performance could be ordered, traced, monitored, and assessed more accurately in a specific place at a particular point in time. Letters and autobiographies from ancient Egypt attest to the importance that individuals attached to being seen to have done 'a good job'. This signalled not only competence, but also personal integrity, trust worthiness, and adherence to whatever social codes of conduct were derived from *Maat* in a particular era. This seems to have been an important social/ethical drive that aimed to propel behaviour towards a disciplined application of effort to perform tasks as competently as possible.

Variations in rations signalled to individuals the worthiness of their effort. In an ordered, hierarchical society like that constructed by the inscriptions of ancient Egypt, it is not surprising that rations were fine-tuned to reflect differences in skill and rank. Through the intervention of accounting with its seemingly precise calculus the differential worthiness of human endeavour of a workman was constructed as a fraction of one loaf of bread. These ration lists were accounting codes that reinforced and *visualized* the relative importance of employees, providing a ranking for the individual concerned, which while conferring high status upon individuals allocated high rations simultaneously inflicted symbolic violence on those accorded lower rations.

The determination of ration lists is only one, albeit important, part of the impact of ancient accounting inscriptions upon rations. For once ration lists were inscribed, a suitable means of payment had to be found. In an economy which lacked a currency of universal circulation, such as modern money, payment needed to be possible using a variety of commodities. Accounting expertise proved indispensable in producing a system of equivalence whereby rations measured in a particular commodity were translatable into other commodities. Typically, one commodity may be designated as the unit of measurement, or the 'money of account,' such as loaves of bread. As value equivalence is defined between these 'money of account' commodities, a flexible scheme was established whereby payments could be made in any commodity (e.g., bread, geese, beer) without compromising *value* equivalence.

These wide ranging, and significant, roles played by accounting inscriptions testify to their centrality in ordering work and promoting discipline, perhaps more than can be claimed for violent coercion or religious devotion. Both accounting and administrative inscriptions combined to create a spatial and temporal zoning that served as the basis of work organization and discipline. Such strong emphasis upon precision, detailed calculation, order and control had their parallels in the wider society at large during the Middle Kingdom, as successive Pharaohs sought to correct and move beyond the traumatic chaos of the First Intermediate Period by bringing order back to society. Ordering devices, such as accounting, can be seen to have signalled the regaining of much of the confidence lost during the First Intermediate Period. While evidence on the intervention of accounting may vary in its precise manifestation from one historical episode to another, the message is the same. Accounting in ancient Egypt was a fundamental part of the ensemble that made possible a construction of an orderly society, just as it remains today as a major force that underpins order in contemporary organizations and society.

12 Accounting for the Bakeries

In ancient Egypt foodstuffs, especially beer and bread, were accorded great prominence. Beer was the 'national drink': "It was a vitamin- and protein-rich, caloric staple—quite unlike the filtered and pasteurized, modern, commercial product—and safer to drink than river, canal, and pond water" (Geller, 1992: 20). Bread was also central to subsistence and, as indicated in previous chapters, it was used as a standard form of payment. Beer and bread were important to both the living and the dead: "The frequency with which well-furnished tombs were provided with bread loaves and jars of beer, and the many artistic scenes of baking and brewing in tombs, demonstrate how the ancient Egyptians aimed for an equally abundant supply in the after-life (see Chapter 5). No meal was complete without bread and beer, and every ancient Egyptian "from Pharaoh to labouring peasant" partook of them (Samuel, 2000: 537). As Egyptian beer and bread were made from grain, Mills (1992: 28–29) notes, "Not only was grain the central focus of agricultural production, but in its basic forms as bread and beer, it served as standard measures for the valuation of labor and the basis for exchange."

The focus of this chapter is on the role of accounting is ordering the activities of state bakeries rather than the brewing of beer because of the similarity of their cooking processes and accounting inscriptions. The bakery accounts analyzed in this chapter were reckoned in the *khar* and *deben* families of money of account that reflected quantities and adjustments in quality. These physical measures: (i) made possible the aggregation of quantities of products (breads) of differing weights; (ii) facilitated the calculation of loss allowed in the production process (baking); (iii) rendered differences in quality of output calculable, and therefore visible, (iv) allowed for matching inputs with outputs; and (v) rendered possible tracing responsibility for performance to each baker.

ACCOUNTING FOR THE CONVERSION PROCESS IN THE BAKERY

This section examines how accounting ordered bread baking via two distinct, yet related, procedures: the development of input-output metrics and the keeping of accounting records to monitor the conversion of grain into bread. The analysis shows that accounting inscriptions provided a powerful means for monitoring human performance, and constructed social order by endowing action with legitimacy and conformity to expectations.

The Development of Input-Output Metrics

The accounting metric used in monitoring the conversion of grain into bread consisted of two parts, one counting and the other measuring quality. Counting matched the quantities of input with output and allowed for unavoidable loss during baking, for example, due to evaporation. The measure of quality (also interchangeably called cooking ratio, baking number, and baking value) was the *psw* (pesew) whose use applied only to grain. This measure indicated the number of loaves of bread produced from one *hekat* of flour or grain (Gillings, 1982: 128). The higher the *psw* the more diluted the bread and the lower its quality. It is therefore a measure of the strength of bread *after* baking[1].

In the baking accounts examined here allowances were made for natural loss of weight during baking (see Spalinger, 1986a). A rate of natural loss was determined which, in general, was of the order of 1/8 of the grain input (Moritz, 1958), but the accounts examined here show some variations, within a narrow range, around this figure (Spalinger, 1986a). As we have seen in Chapter 5, it seems that the allowance of 1/8 for natural loss was a guideline with variations possible to make it more responsive to changing circumstances. Once determined, an allowance was translated into a weight conversion rate which was used to convert the number of loaves of bread of a particular size into the equivalent weight in *deben* (91 grams). In this way, the input and output of grain were brought into direct comparison.

The quality measure, *psw,* made possible the conversion of different types of bread into equivalences that could be compared or added together. This quality metric also ordered the relation between the input and output of grain by linking them together through the conversion (baking) process. The potential significance and performativity of the *psw* cannot be overstated; once developed, it visualized the relationship between inputs and outputs and it rendered calculable and visible the performance of those in charge of baking, storing and distributing bread. The *psw* was frequently celebrated in ancient Egyptian texts such as *The Rhind Mathematical Papyrus* (1990), where it was incorporated into elaborate mathematical problems aimed at developing the numeric skills of young scribes.[2]

Monitoring the Transformation of Grain into Bread

The process of bread baking involved deliveries of grain (both barley and emmer) from the central granary to the bakery for conversion into flour and bread; finally, bread was delivered from the bakery to the storehouse. Each of these steps were recorded by the scribe (Spalinger, 1986a: 309–310):

> "Year 2 4 smw day 23
> King of Upper and Lower Egypt Menma't-Re. l.p.h.[3] son of Re, Sety Merenptah, l.p.h., who lives for ever and ever like his father Re every day.
> *This day.* One was in Memphis in the estate of A'a-kheper-k-Re.
> *Missive.* Receiving the emmer from the granary of the Pharaoh, l.p.h., in Memphis in order to make it into breads in the bakery *(hsyt)* which is placed under the authority of the Mayor of Memphis, *Nfr-htpw.*
> Transferred to the storehouse of Pharaoh, l.p.h."

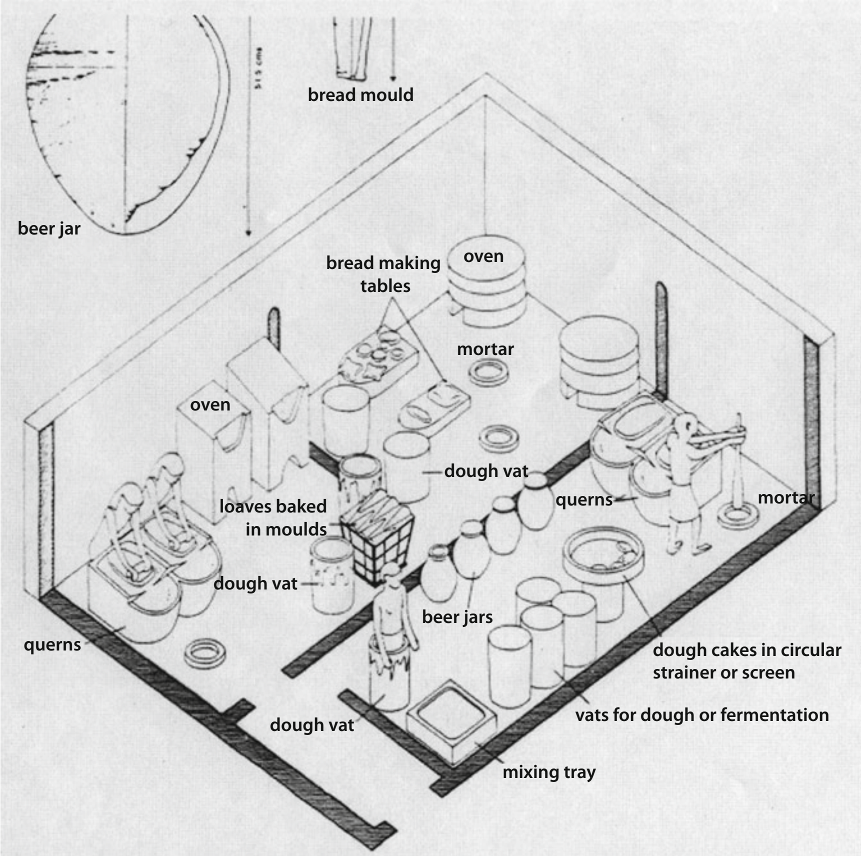


Figure 12.1 Baking and brewing, tomb of Meket-Ra at Thebes, Eleventh Dynasty model.*

**Source*: B.J. Kemp, Ancient Egypt: Anatomy of a civilization, London: Routledge, 1989: 121.

This inscription indicates that as soon as the grain was transferred from the granary to the bakery, it was placed under the supervision of the Mayor of Memphis. Evidence on processes of bread baking relies on wall-reliefs and paintings, statutes and models, but Egyptologists are increasingly interrogating more direct evidence based on archaeological records (Samuel, 2000). A model from the tomb of the high official Meket-ra who lived in the Eleventh Dynasty (2040–1991 BCE) shows the organization of a typical bakery (see Figure 12.1). The bakery and the brewery were normally housed in adjacent parts of the same complex which seems sensible given their common use of grain. The bakery was subdivided into two compartments by a low partition wall to facilitate the baking of two different kinds of bread, flat and cylindrical loaves. In each compartment there were mortars, kneading vats and ovens. The outer compartment had querns and pottery moulds for baking cylindrical loaves and a bread basket, while the inner compartment had tables for hand-forming flat loaves.

A painting in the tomb of vizier lntef-iker of the Twelfth Dynasty provides some insight with respect to the activities which were performed in the bakery (see Figure 12.2). Baking fine, cylindrical loaves involved six stages: (1) preliminary crushing of grain, with pestle and mortar; (2) grinding of crushed grain with a hand quern; (3) sieving out coarse elements; (4) making clay bread moulds; (5) filling moulds with dough; and finally (6) baking bread moulds in an oven. Although not shown in Figure 12.2, fine flour obtained after stage (3) was mixed with water to make dough which was then used in stage (5). Baking seems to have been done using a variety of methods, including placing the loaves on open fire, over ashes, on horizontal slaps over oven, in preheated moulds, or by pressing against preheated internal cylindrical walls (Samuel, 2000: 539).

It is not entirely clear how the bakery was administered and how instructions concerning baking and work organization were communicated to the

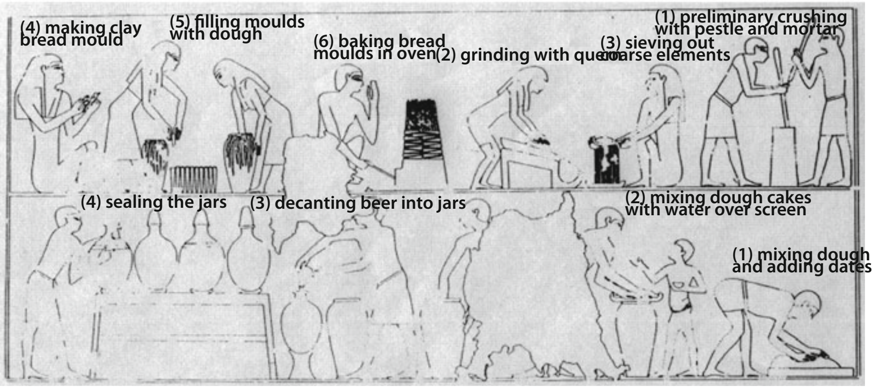

(4) making clay bread mould
(5) filling moulds with dough
(6) baking bread moulds in oven
(2) grinding with quern
(3) sieving out coarse elements
(1) preliminary crushing with pestle and mortar
(4) sealing the jars
(3) decanting beer into jars
(2) mixing dough cakes with water over screen
(1) mixing dough and adding dates

Figure 12.2 Baking and brewing (tomb of Intef-iker).
**Source*: B.J. Kemp, Ancient Egypt: Anatomy of a civilization, London: Routledge, 1989: 123.

bakery staff, but it seems that this entailed both written and oral forms. A letter from the Twentieth Dynasty (1196–1070 BCE) sent to the scribe of the necropolis Butehamon by the general of the Pharaoh indicates that Butehamon read its contents to the workforce (Wente, 1990: 194):

> "I, the scribe Butehamon, took the letter. I summoned the two foremen, this guardian, and the necropolis personnel who are under their supervision, including the oldest and youngest of them, and I read it out to them. They replied, 'We will do, we will do according to what our lord has said', it being in the first month of the third season, day 20, that this letter reached us."

Therefore, it seems that instructions of tasks to be performed were given in writing to the overseer or scribe who communicated them verbally to the foremen (see also the bakery accounts here). Although we have no knowledge of the details of the letter sent by the general of the Pharaoh to Butehamon, there is little doubt that it would have been written with strong authoritarian tones in the typical style of instructing subordinates:

> "It is [the general) who addresses the necropolis administration. Quote:
>
> As soon as my letter reaches you, you shall join up with the chief taxing master and fence in this pasturage. Don't be negligent. And may it (this letter) serve you as testimony." (Went, 1990: 202)

Maintaining order in the workplace was thus seen to require clear instructions in writing of what is to be done. Such authoritarian style carried with it the formidable power of the Pharaoh's administration with its familiar sanctions, and inscribing the instructions ensured that there was a formal record against which achievements could be compared and human responsibility assessed.

Accounting for Baking

Several scattered accounts of the baking process have survived, but most of them are incomplete and badly damaged. Fortunately, however, an almost complete set of baking accounts from the reign of Seti I (1306–1290 BCE) relating to the army and the palace has survived, and one of these army accounts will be examined here.

Table 12.1 lists the quantity of wheat delivered and an account of its baking into flour, dough, and loaves of bread of a particular weight. One sack of emmer was delivered and is inscribed as equalling 1 53/60 *oipe* of wheat. With 5 *hin* listed as waste, 2 *oipe* of flour, which when sieved produces the equivalent of 1 75/80 *oipe* of 'prepared' flour and 2 ½ *hin* of chaff/dust. A conversion rate of 1 *oipe* = 19.22 liters and 1 *hin* = 0.48 liters gives

Table 12.1 Papyrus Northumberland II: Army Baking Account*

Recto

Year 3, 2nd month of Shomu, Day 29, under the Majesty of the King of S & N Egypt, Menmare, LPH, Son of Re, Sethos I Merenptah, LPH, given life forever and eternally like his father Re.
Amount which was made up from the harvest of Year 2 of the King of S & N Egypt, Menmare, LPH, as the amount of bread for the troops.
List of it: emmer, 1 sack.
What was delivered form it, as wheat: $1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{10}$)?) $+ \frac{1}{30}$ oipe;

amim (waste?), 5 hin.

What was delivered from it, as flour: 2 oipe.
What was delivered from it, as flour, 'prepared' (sieved?): $1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{20} + \frac{1}{80}$;

Gemu (dust/chaff?), $2\frac{1}{2}$

What was delivered from it, as dough: making 383 deben, and sen-nut (left-overs?), $7\frac{1}{2}$
Making 31 Akek loaves at 1[2] deben weight each, making 372 deben; loss, just once (overall), 11 deben.

What was delivered from it, being what came from the fire (=oven):
31 Akek loaves at $10\frac{3}{4}$ deben each, making $333\frac{1}{4}$ deben, and sen-nut (left-overs?), 6.

Verso

[Man's name	2 oipe]
[Woman's name	2 oipe]
Henut-nofret	2 oipe
Setekh-em-mai	2 oipe
Su-em-mer-en-Iset	2 oipe
Nuhe(t)	2 oipe
Nodjme(t)	2 oipe
Total, 8 (people).	

Source: K. A. Kitchen (1993), *Ramesside Inscriptions I*, Oxford: Blackwell: 206-207.

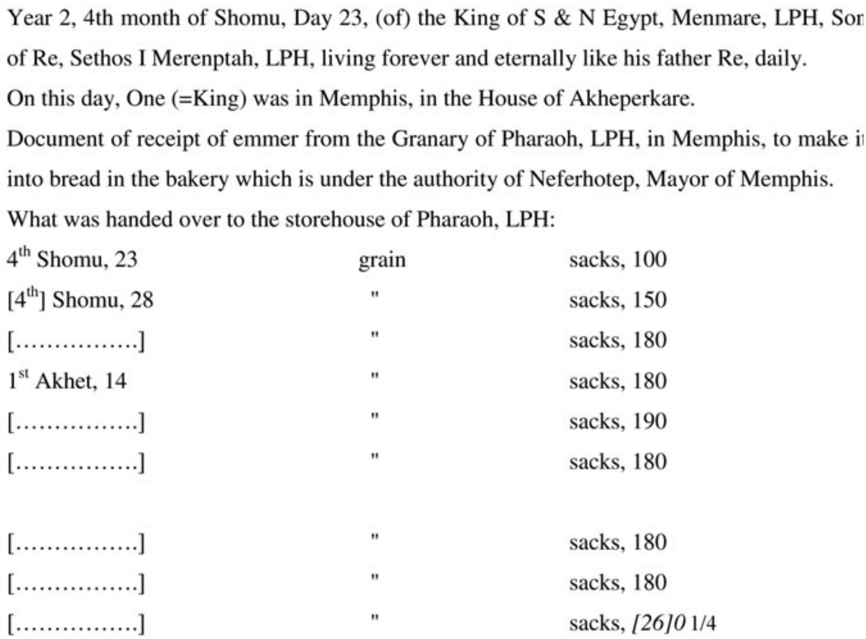
1 *oipe* = 40.05 *hin*. It is therefore possible to reconcile the delivery of flour totaling 2 *oipe* = 80.10 *hin* with the sieved 'prepared' flour of 1 75/80 *oipe* = 77.6 *hin* + 2.5 *hin* dust = 80.10 *hin*. But the quantity of 1 53/60 *oipe* less

5 *hin* waste comes to less than the 2 *oipe* delivered as flour to be sieved, so there may have been some opening inventory of flour to make up for that difference. We can now use the net amount of 'prepared' flour of 1 75/80 *oipe* = 77.6 *hin* to account for the dough delivered.

Reconciling the baked loaves produced with the amount that should have been delivered depends upon how the part of the sentence "loss, just once (overall), 11 *deben*" is interpreted. If it means that the pre-specified weight by loaf of 12 *deben* had to be reduced after baking to 11 *deben* (i.e., baking loss of one *deben* per loaf) then 31 loaves x 11 *deben* = 341 which would then have to be compared with 339 ¼ *deben* (333 ¼ + 6) given a non-permitted loss of 1 ¾ *deben*. However, the natural baking loss would amount to only 1/12 rather than the customary 1/8 or 1/10 (see the following). Alternatively, if the 12 *deben* was the expected weight of every bread loaf after baking, then by contrasting this against the weight of 10 ¾ *deben* actually delivered we have a loss of 1 ¼ *deben* per loaf, which is just under 1/8.

Whichever scenario is adopted in seeking to reconcile the entries in this account, the details themselves are remarkably revealing in terms of how the scribe accounted for baking activities, as the account differentiates seven stages: delivery of a sack of emmer; the amount of wheat extracted from that sack; the amount of flour into which the wheat was converted; the amount of sieved 'prepared' flour extracted from the un-sieved flour;

Table 12.2 Emmer Account*



Year 2, 4th month of Shomu, Day 23, (of) the King of S & N Egypt, Menmare, LPH, Son of Re, Sethos I Merenptah, LPH, living forever and eternally like his father Re, daily.

On this day, One (=King) was in Memphis, in the House of Akheperkare.

Document of receipt of emmer from the Granary of Pharaoh, LPH, in Memphis, to make i into bread in the bakery which is under the authority of Neferhotep, Mayor of Memphis.

What was handed over to the storehouse of Pharaoh, LPH:

4th Shomu, 23	grain	sacks, 100
[4th] Shomu, 28	"	sacks, 150
[................]	"	sacks, 180
1st Akhet, 14	"	sacks, 180
[................]	"	sacks, 190
[................]	"	sacks, 180
[................]	"	sacks, 180
[................]	"	sacks, 180
[................]	"	sacks, *[26]0* 1/4

* Source: Kitchen, K.A. (1993), *Ramesside Inscriptions I*, Oxford: Blackwell: 208-209.

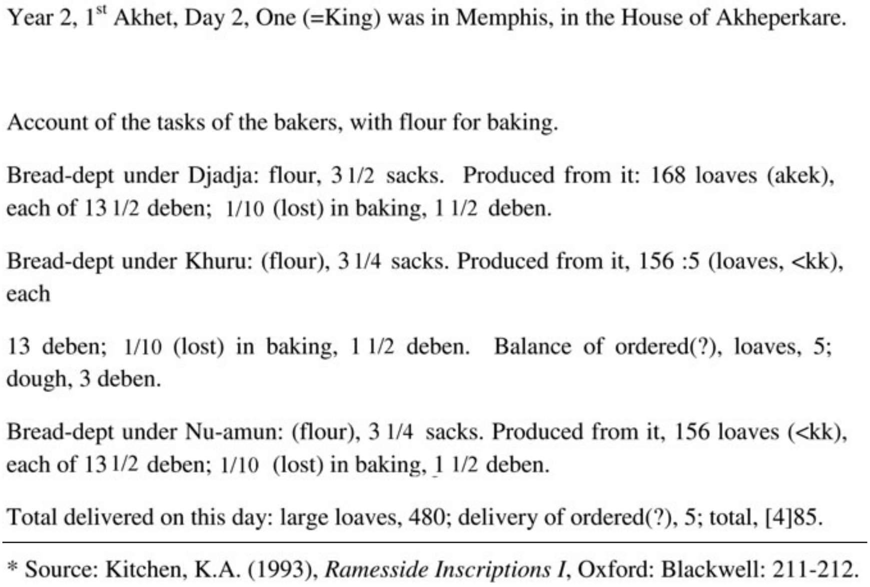
the amount of dough made from the sieved flour; the expected number of bread loaves and their weight to be made from the dough; and the amount of bread loaves and their weights actually delivered from the oven. The account therefore reproduces the bread making stages shown in tomb-reliefs discussed in Figure 12.2. This level of detail exemplifies the way the scribes partitioned bread baking activities and human responsibility into well ordered and carefully designated spaces. With the year, season, month, and day stated, the account also functioned as a time ordering device that anchored temporally the subjects and objects it inscribed.

The second set of accounts examined here relate to the Palace of Seti I (Sethos I) and whereby fowl deliveries, timber, inventory of personnel, grain deliveries, and baking activities are inscribed (Kitchen, 1993: 207–230). Given the focus of this chapter, only the grain deliveries and their baking are examined here. The accounts are divided into four categories: emmer accounts (grain deliveries); baking accounts by individual baker; accounts of bread received from the bakery; and bread summaries accounts.

Emmer Accounts

The purpose of an emmer account is to record the receipt of emmer sent from the Granary of the Pharaoh to the bakery under the authority of an official (in this case Neferhotep, Mayor of Memphis) in order to convert it into bread (see Table 12.2). The account shows the location of the Granary, the bakery and the official responsible for it, and the sacks of grain

Table 12.3 Accounting for Individual Backers*



Year 2, 1st Akhet, Day 2, One (=King) was in Memphis, in the House of Akheperkare.

Account of the tasks of the bakers, with flour for baking.

Bread-dept under Djadja: flour, 3 1/2 sacks. Produced from it: 168 loaves (akek), each of 13 1/2 deben; 1/10 (lost) in baking, 1 1/2 deben.

Bread-dept under Khuru: (flour), 3 1/4 sacks. Produced from it, 156 :5 (loaves, <kk), each

13 deben; 1/10 (lost) in baking, 1 1/2 deben. Balance of ordered(?), loaves, 5; dough, 3 deben.

Bread-dept under Nu-amun: (flour), 3 1/4 sacks. Produced from it, 156 loaves (<kk), each of 13 1/2 deben; 1/10 (lost) in baking, 1 1/2 deben.

Total delivered on this day: large loaves, 480; delivery of ordered(?), 5; total, [4]85.

* Source: Kitchen, K.A. (1993), *Ramesside Inscriptions I*, Oxford: Blackwell: 211-212.

delivered on a particular day. The deliveries range from 100 sacks to 260 sacks, with 180 sacks being more frequent, and a total of 1600 sacks over the entire period. In this listing of amounts of grain delivered responsibility for receipt can be traced to an individual, Neferhotep, with the temporal zoning inscribed in the account in the form of the date of each delivery.

Accounting for the Performance of Individual Bakers

Table 12.3 contains the baking accounts of three bakers in one typical day from the reign of Seti I. The accounts emphasize the *physical flow of production activities,* in numbers, weights (*deben*), and baking ratios (*psw*), and matches inputs with outputs.

It is evident that: (i) each sack of emmer weighed 720 *deben* (see Spalinger, 1986a); and (ii) the loss permitted for baking was 1/10 rather than the typical 1/8. Part 1 shows how the baking process was accounted for. The input to this process was 3 ½ sacks of emmer @ 720 *deben* each, giving a total of 2520 *deben* to account for. The output entry records the delivery of 168 large loaves of *'akek* (*'kk*) bread each weighing 13 ½ *deben* after allowing for 10 percent wastage, giving a total net weight of 2268 *deben*. The input of 2520 *deben* is matched with the output of 2268 *deben* plus 252 (1½ *deben* x 168 loaves), the allowance for baking wastage. The standard input allowance for each loaf of the *'kk* variety was therefore 15 *deben,* with the expectation that 1½ *deben* would be lost during the baking process to yield a net weight of 13½ *deben* per loaf.

The account shows that the scribe distinguished between allowed wastage and any loss in excess of that. The loss which occurred during baking resulted in an inferior product (each loaf weighing only 13 *deben* instead of the expected 13½ *deben).* Given an input of 3¼ sacks of emmer (2340 *deben),* the expected output was 156 loaves weighing 13½ *deben* each; but the loaves delivered, although equal in number to those expected, were lighter (by 78 *deben).* This loss in weight translates into five loaves of bread and 3 *deben* of dough (78/15), as shown in the last entry in Part 2. Hence, the non-permitted baking loss was translated by the scribe into equivalent loaves (but notice that the real loss appears to be only those five loaves as the 3 *deben* of dough that remained at the end of the day was work in progress).

The account also reveals that baking went according to plan, as the expected number of loaves of *the correct weight* was delivered. Finally, the account brings together the grand total for the three bakers, which shows it to be in balance with the numbers of loaves delivered and those lost in excess of permitted allowances.

Through the judicious use of accounting metrics reflecting the weights of inputs and outputs, and also the number of products of a particular type, in the above case the *'kk* bread, the scribe was able to trace, match and record the flow of inputs and outputs, although there is no evidence that the accounts traced the inflow and outflow of activities for each of the six baking stages shown in Figure 12.2. With the separation of permitted loss from non-permitted loss, it was also possible to generate physical measures that made visible the performance of every individual baker and of the bakery as a whole. Other baking accounts demonstrate that these accounting procedures were adhered to (Figure 13.6; see Kitchen, 1993: 212–224; Spalinger, 1986a: 325).

In Table 12.4 the account shows two types of non-permitted loss: one caused by the failure of the bakery to convert the emmer input into the correct number of loaves, the other by producing loaves of lighter weight than expected. In this account the unit of finished output expected is a loaf of *kyllestis* bread weighing 3½ *deben* for every input of 4 *deben* of emmer, thereby giving a permitted wastage in baking of ½ a *deben* (the conventional 1/8). The expected output and allowances for baking loss are made clear to the baker.

The total input to account for is 3½ sacks of emmer (2520 *deben)*. With a conversion rate of 4 *deben* per loaf of *kyllestis* bread, the expected output is 630 loaves of the correct weight. The account shows an actual delivery of 602 loaves with 28 loaves remaining. The second remainder is the weight loss during baking, but translated into an equivalent number, 78¾, of loaves (equivalent to 315 *deben* of emmer input, given that each loaf of *kyllestis* bread required 4 *deben* of emmer to make). This last entry records the unexpected loss in the weight of the bread delivered (as distinguished from the loss allowed for baking that was typically recorded by stating it per loaf and not for the total loaves baked), as indicated at the beginning of the account. The scribe therefore divided the non-permitted loss into two types: loss resulting from failure to deliver the expected *number* of loaves, and loss arising from producing bread of less *weight* than expected stated as number of loaves. Thus, through a combination of counting and weighing the bread baking process was monitored closely.

The *psw* (baking ratio) was used to monitor quality; it represented an abstract idea which captured the inverse of the number of *hekats* per item. A detailed example of the use of the *psw* is given in one account from P. Bulaq 18 (1780 BCE; Late Middle Kingdom), dealing with levies to meet special needs shown in Table 12.5 (Spalinger, 1986b: 218). Although deliveries of

Table 12.4 Types of Non-permitted Baking Loss*

1st Akhet, Day 5: account of the tasks of the bakers, with flour,
to make kyllestis loaves of 4 deben each, finishing as 3 ½ deben.
On this day:
The baker Djadja: flour, 3 ½ sacks. Produced, kyllestis loaves, 602. Balance, 28. Balance
of ordered(?), 78 ¾.

* Source: Kitchen, K.A. (1993), *Ramesside Inscriptions I*, Oxford: Blackwell: 213.

both emmer and barley were used in cooking, the relevant *psw* is stated as a denominator (of quality) and hence it is possible to aggregate the number of *hekats*[4] across the account. The first half of the daily account covers the Waret (Department) bread deliveries, and these can be aggregated into: 60/20 + 190/30 + 200/50 + 25/20 + 25/30 = 15 5/12 *hekats*. Further, there are 25 (500/20) *hekats* of beer, followed by other minor items of food. In addition to making possible the overall aggregation of the number of

Table 12.5 Account of Levies to Meet Special Needs*

/nw# of the Waret of the Head of the South! Remaining

The overseer of the city, vizier, overseer of the six great chapels *'nhw*

Psw

Barley	Emmer	Total	Supplied	Remainder	of the *Sn'*
P't bread	20	20	60	60	
P't bread	30	30	190*	178*	(12)
Bit bread	50	50	200	200	
Sweet *psn* bread	20	30	50	50	
Total			500*	488*	(12)
Beer *des* jug	2		50	50	
vegetables *t3*			5	5	
Beer great *hbnt*					
jugs	2		3	2	(1?)
Hrt	3	3	2	1	(1?)
Bit *ht3*			4	4	
Psn wd'			*4*	4	
Dates *hrt*			2	2	
Vegetables t3			2	2	

# *Inw*: levies to meet special needs.

! *Waret*: large geographic domain made of several nomes. Ancient Egypt was divided into three *Waret*: the North, the Middle and the South.

* Refers to corrections made to the original accounts by the translator.

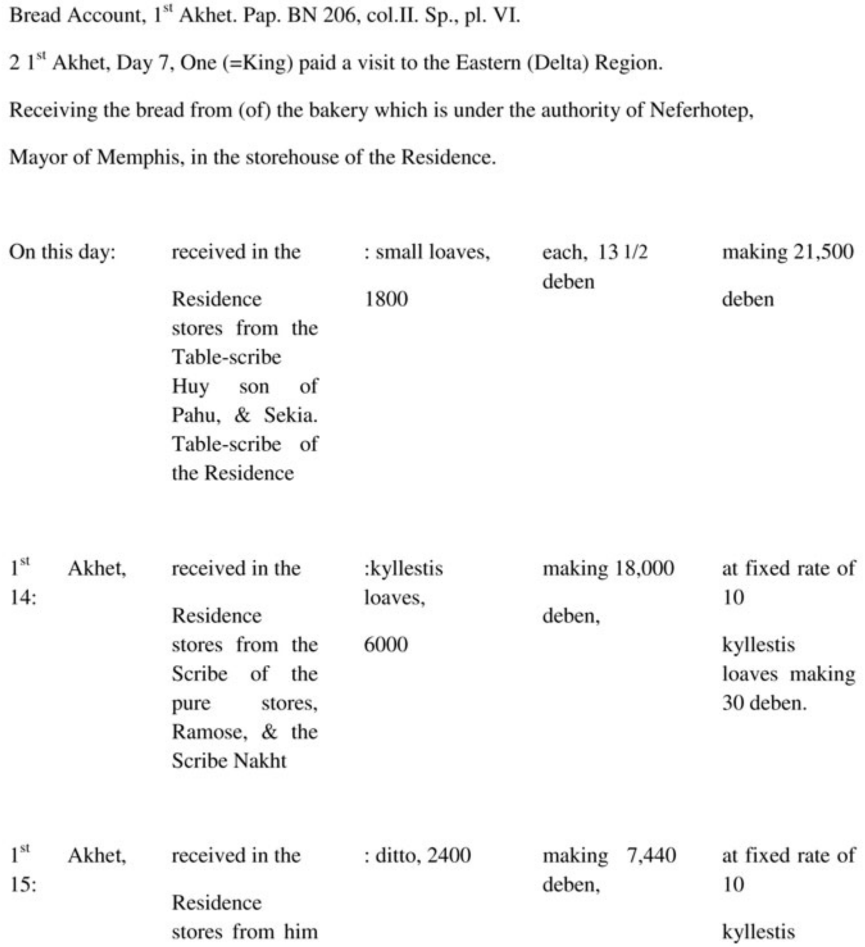
# Source: Spalinger, A. (1986b), "Foods in P. Boulaq 18", *Studien zurAltagyptischen Kultur,* Vol. 13: 218.

hekats of different types of grain, the *psw* provided a measure of dilution that facilitated the aggregation of *hekats* of grain used in making beer and bread. The *psw* was thus a powerful tool with which the scribes could pre-specify the amount of grain permitted for making a given number of loaves or jugs of beer. Thus, the *psw* and allowance for natural loss were considered part of order; in contrast abnormal loss and below par *psw* in baked bread were manifestations of disorder that had had to be reversed.

Accounting for Bread Deliveries from the Bakery

Through the use of straight counting and weighing the scribes monitored the delivery of bread from the bakery to the stores. The inscriptions had

Table 12.6 Account of Bread Deliveries*



Bread Account, 1st Akhet. Pap. BN 206, col.II. Sp., pl. VI.

2 1st Akhet, Day 7, One (=King) paid a visit to the Eastern (Delta) Region.

Receiving the bread from (of) the bakery which is under the authority of Neferhotep,

Mayor of Memphis, in the storehouse of the Residence.

On this day:	received in the Residence stores from the Table-scribe Huy son of Pahu, & Sekia. Table-scribe of the Residence	: small loaves, 1800	each, 13 1/2 deben	making 21,500 deben
1st Akhet, 14:	received in the Residence stores from the Scribe of the pure stores, Ramose, & the Scribe Nakht	:kyllestis loaves, 6000	making 18,000 deben,	at fixed rate of 10 kyllestis loaves making 30 deben.
1st Akhet, 15:	received in the Residence stores from him	: ditto, 2400	making 7,440 deben,	at fixed rate of 10 kyllestis

Continued

Table 12.6 Continued

		(ditto)			loaves making 31 deben.
1st 16:	Akhet,	received in the Residence stores from him (ditto)	: ditto, 1400	making 4,590 deben,	at ditto 10, ditto 33 1/2
1st 18:	Akhet,	received in the Residence stores from him (ditto)	: ditto, 2790	making 9,765 deben,	at ditto 10, ditto 35
1st 21:	Akhet,	received in the Residence stores from him (ditto)	: ditto,[1+x].090	making 8,155 deben,	he weighed (it) all
1st 22:	Akhet,	received in the Residence stores from him (ditto)	: ditto, 2,200	making 7,800 deben,	ditto.
1st 25:	Akhet,	received in the Residence stores from him (ditto)	: ditto, [2],600	making 9,453 deben,	ditto.
1st 28:	Akhet,	received in the Residence stores from him (ditto)	: ditto,[1+x],668	making 13,800 deben,	ditto.

Continued

Table 12.6 Continued

2nd Akhet, 1:	[His] Majesty, [LPH], went [to Thebes]. Received in the Residence stores from the Scribe Nakht	: ditto, 3,710	making 13,745 deben,	ditto.
2nd Akhet, 4:	received in the Residence stores from the Scribe Nakht	: ditto, 4,100	making 13,680 deben,	ditto.
2nd Akhet, 8:	received in the Residence stores from him	: ditto, 1,715	making 17,880 deben,	ditto.
2nd Akhet, 9:	received in the Residence stores from him	: ditto, 1,200 [+x?]	making 4,200 deben,	ditto.
2nd Akhet, 12:	received in the Residence stores from him	: ditto, 3,000 [+x]	making 10,230 deben,	ditto.
2nd Akhet, 17:	received in the Residence stores from him	: ditto, 4,000 [+x]	making 15,700 deben,	ditto.
2nd Akhet, 20:	received in the Residence	: ditto, 4,000 [+x]	making 13,760 deben,	ditto.

Continued

Table 12.6 Continued

	stores from him			
2nd Akhet, 22:	received in the Residence stores from him	: ditto, 3,000 [+x]	making 10,000 deben,	ditto.
2nd Akhet, 26:	received in the Residence stores from him	: ditto, 3,820	making 13,421 deben,	ditto.
2nd Akhet, 29:	received in the Residence stores from him	: ditto, 3,870	making 12,550 deben,	ditto.
2nd Akhet, 2:	received in the Residence stores from him	: ditto, 3,,843	making 12,700 deben,	ditto.
3rd Akhet, 6:	received in the Residence stores from him	: ditto, 4,986	making 16,350 <deben>,	ditto.
Pap. BN 204, col. I:				
1 3rd Akhet, 8:	received in the Residence stores from the Scribe Nakht	: large?/good? Kyllestis loaves, 2390	making 7,870 deben,	
3rd Akhet, 10:	received in the Residence stores from Nakht, Scribe of the	: ditto, 2,440	making 8,050 deben,	

Continued

Table 12.6 Continued

	pure Stores		
3rd Akhet, 14:	received in the Residence stores from him	: ditto, 3,790	making 12,360 deben,
3rd Akhet, 16:	received in the Residence stores from him	: ditto, 2,300	making 7,850 deben,
3rd Akhet, 19:	received in the Residence stores from him	: ditto, 2,880	making 9,500 deben,
3rd Akhet, 22:	received in the Residence stores from him	: ditto, 2,600	making 8,900 deben,
3rd Akhet, 27:	received in the Residence stores from him	: ditto, 5,266	making 17,440 deben,
4th Akhet, 6:	received in the Residence stores from the Scribe Thutmose	: ditto, 11,072	making 37,220 deben,

Continued

Table 12.6 Continued

4th Akhet, 19:	received in the Residence stores from the Scribe Nakht	: ditto, 4,205	making 18,350 deben,
4th Akhet, 17:	received in the Residence stores from him	: ditto, 1,000	making 3,710 deben,
4th Akhet, 30:	received in the Residence stores from the Scribe Paherypedjet	: ditto, 1,001	making 3,090 deben,

* Source: Kitchen, K.A. (1993), *Ramesside Inscriptions I*, Oxford: Blackwell: 209-211.

two distinct forms: the first consisted of making daily entries of the number of bread loaves received from the bakery, and the second is a grand summary of these daily receipts.

Table 12.6 shows the entries in the daily receipts account which indicate the date and month of bread receipt, the source of delivery and the name of the individual concerned, the type/size of bread, the specified net weight (*deben*) per loaf for each quantity received, and the aggregate weight of all bread received on that day in *deben*. As bread was stored in special warehouses, these accounts can be considered bread storehouse accounts. Given the frequency and organization of daily receipts accounts, the scribes could determine which bakeries failed to deliver the requisite types and quantities of bread with the pre-specified quality. The daily accounts of each bakery could therefore be contrasted in terms of expected deliveries against actual deliveries. These entries did not specify the performance of individual bakers, presumably because such detailed responsibility was monitored at the level of the bakery. Hence, in the storehouses daily receipts accounts the level of responsibility was that of the bakery as a production unit, but it is not clear if this was the responsibility of a single official or the collective responsibility of all staff working in the bakery.

The account has been reproduced in Table 12.6 in full rather than only a small part of it not because the different entries contain sufficient variations to warrant their full inclusion. Rather, the aim is to show the reader how a near full account of bread deliveries was organized as an example of ancient Egyptian bookkeeping. The design of the account and the manner in which the various entries have been inscribed demonstrate clearly the overall order that the scribes followed throughout the whole inscription. The remarkable clarity of the entries makes it extremely easy for the scribes to trace any specific entry. The overall organization gives an unmistakable impression of order of accounting books throughout. For those who could read, or even simply see such order, it would have been fairly straightforward to connect this order with the order in the bigger picture: the ancient Egyptian universe with its three domains: the cosmos, the earth, and the netherworld.

Aggregate Summary Accounts of Bread Receipts

This account consists of two parts: (i) the first part indicates the types, numbers, and weights of bread loaves expected to be delivered, and (ii) the second part details *actual* deliveries. Hence, this was a grand summary of the storehouse daily receipts account. The account in Table 12.7 shows two different ways of accounting for the same thing. The first part details the number of sacks of emmer wheat sent from the Granary to the bakery and the expected output, both in terms of number of loaves and weight in *deben*. In contrast, the second part records the arrival of baked bread from the bakery to the storehouse, in terms of number of sacks of emmer wheat, and number and weight of loaves delivered.

The first part of the account states that an input of 1601 ¼ (one *oipe* equals ¼ *khar*) emmer wheat sacks[5], assumed to be equivalent to 392,325

Table 12.7 Aggregate Summary Bread Account

1,601 (sacks), 1 oipe: 392,325.

(one line space)

Total, small loaves: 107,893, making 364,371 deben.

Small loaves, 6171, and large loaves, 1800, making 21,600 deben.

Total, 385,971 (deben).

Balance, 6,354 deben.

Quantity, emmer: 1,601 sacks, 1 oipe, making 112,090 small loaves, making 392,306 deben.

What came into the storehouse: small loaves, 114,000(?), ………, making 385,971 deben.

Remainder, small loaves, 6335 deben, making 1825 small loaves.

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* Source: Kitchen, K.A. (1993), *Ramesside Inscriptions I*, Oxford: Blackwell: 211.

deben, is expected to be converted into an output of 107,893 small loaves @ 3.377 *deben* each (total 364,371 *deben)* and 6171 small loaves @ 3.5 *deban* each or 1800 large loaves @ 12 *deben* each (total 21,600 *deben)".*[6] These two sets of figures add up to 385,971 *deben* (364,371+21,600), the figure appearing on line four. Subtracting 385,971 *deben* from the total input of 392,325 *deben* (first line) leaves a remainder of 6354 *deben*. Hence, this part of the account details various equivalences between inputs and outputs (of different bread sizes as well as allowing for variations within the small bread types). The remainder of 6354 *deben* (about 1.6 percent of the total input) is far too small to be considered as the permitted baking loss (see earlier), and may therefore reflect the weight of emmer expected to be left over in the bakery for the next period after the target number of loaves has been baked.

The second part of the account is concerned with the conversion of emmer into bread delivered to the storehouse. The entries show an input delivery of 1601¼ sacks'.[7] Note that this figure of 112,090 small loaves is merely an equivalence of the output expected given the input provided, rather than the actual number of loaves produced. It is on the second line of the second part of the account where *actual* deliveries of bread are stated which, in total, come to 114,265 loaves. The loaves delivered are stated as equivalent to 385,971 *deben* (the same as the total recorded on the fourth line of the first part of the account), implying an *average* input of 3.377 *deben* per loaf. Whether the actual bread produced was all of the small variety is unclear as the third line of this account states two figures of 114,000 "+x"= (114,265 as suggested by Spalinger, 1986a: 317) which could either mean two deliveries of exactly the same weight or of different weights. Actual output was converted by the scribe into an equivalence in *deben*. The remainder, in this part of the account, stated in terms of both weight (6335 *deben)* and the equivalent number of small loaves (1825), comes very close to the remainder of 6354 *deben* recorded in the first part of the account.

In terms of accountability, the two parts of the account must be distinguished. The first part is purely concerned with output targets given a certain amount of input. Various equivalences between different types of output (two types of small loaves and one large) were established, presumably to cater for possible changes in output mix depending on the needs and circumstances relating to a particular baking run. Indeed, the stipulated remainder of 6354 *deben* could be taken to imply a planned baking capacity of 385,971 *deben* for the period. It is with the second part of the account, however, that statements about performance and accountability can be made. Here, the scribe is able to contrast and compare actual output in weight (385,971 *deben*) against target (385,971 *deben*) stated in the first part of the account (line 4), establishing their equivalence and also the near equivalence of actual remainder to target remainder.[8]

ORDERING THE BAKING CYCLE

Based on the accounts analysis above, the way in which the baking cycle was ordered and monitored can now be reconstructed as involving three steps (see Figure 12.3).

(1) Reconciling deliveries of grain from the granaries to the bakery with deliveries of bread from the bakery to the storehouse by matching numbers of loaves expected (using appropriate conversion ratios) against those delivered, and corroborating this by reference to the total weight of bread in *deben*. The use of the *deben* as weight made it possible to match expected and actual deliveries for loaves of differing weights. Capacity measures, such as the *oipe* (19.22 liters) were also used to indicate bread quality, as in this letter from the Nineteenth Dynasty, 1307–1196 BCE (Wente, 1990: 139):

> "To the following effect: I sent to you by the hand of the policeman Pasaro two cakes baked at the ratio of ten per *oipe*-measure of grain."

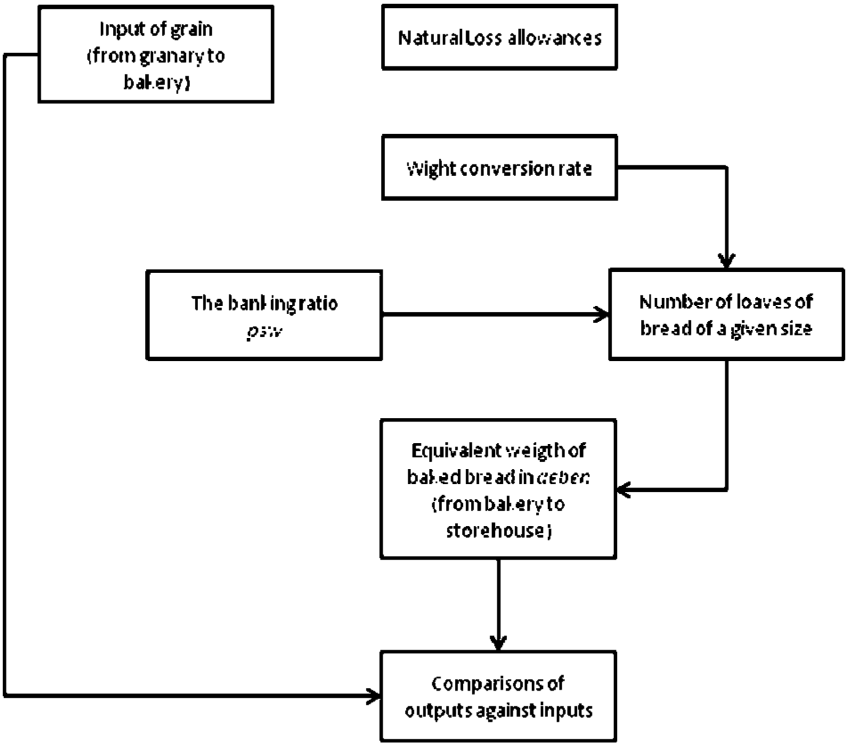
Input of grain (from granary to bakery)
Natural Loss allowances
Wight conversion rate
The banking ratio *psw*
Number of loaves of bread of a given size
Equivalent weigth of baked bread in *deben* (from bakery to storehouse)
Comparisons of outputs against inputs

Figure 12.1 Controlling the baking process.

(2) Each part of the account was reckoned in emmer as input and equivalent bread output thereby rendering input visible in terms of output equivalence.
(3) Minor differences in the accounts arising mainly from rounding off were tolerated; these were considered too insignificant to threaten the ordered functioning of the bakery.

By deploying their accounting skills, the scribes were able to visualize the baking process and render it amenable to monitoring. The accounting techniques used included weighing, counting, a system of quantity equivalences, a quality adjustment (the baking ratio, or the *psw),* and permitted loss in baking. The potency of these techniques was consolidated and ritualized through inscribed entries. Accounting inscriptions ranged from those which stipulated in advance expected output or deliveries, to actual achievements and ultimately to deviations of actual from expected results. Unfortunately, evidence is lacking on additional attributes of the control practices in the baking process. For instance, it is not clear whether, and if so how, reported differences between expected and actual results were investigated and acted upon. What is evident from examining the accounts of the bakery is that, technically, the accounting system developed at that time was capable of informing regular performance reporting and monitoring.

These accounting techniques, however, focused upon measuring physical quantities of weight (such as *deben* of flour or baked bread) instead of their value expressed in say *deben* of gold, silver or copper. It may be that the concern of the scribes was with monitoring baking activities and minimizing fraud for which physical measures were considered sufficient, particularly given the strong disciplinary nature of the social and religious order of ancient Egypt. One immediate question to ask is: why such detailed accountings in the bakery?

As indicated in Chapter 2, compared to the Middle Kingdom the New Kingdom governments were much more centralized with a more finely tuned administrative bureaucracy. Responsibility for bakeries fell within the domain of civil government which promoted a detailed, calculative, and reporting mentality.[9] The quest for these detailed accounting inscriptions was accompanied by two disciplinary technologies: physical punishment and calling forth the intervention of supernatural power. First, the reign of Seti I was noted for the use of severe sanctions, based on Horemheb's edict stipulated four decades earlier, in dealing with abuse. Both Pharaohs were concerned to re-assert kingship power and restore social order in the wake of the Amarna revolution that weakened Egypt's social structure.[10] Horemheb issued an edict with the aim of curbing fraud/abuse and restoring *Maat* as order:

> "This was not a code of law, but rather a series of police regulations directed against specific malpractices and also a reorganization of

> the administrative machinery in the land, in order to control future abuses . . . The punishments meted out are very harsh for minor cases of plundering or corruption. The alarming spread of official dishonesty must have called forth an extreme severity of penalties. Only the finest exhibition of legal power could restore *ma'at* to the land." (Wilson, 1951: 237–238)

Similarly, Seti I issued the Nauri Decree (Griffith, 1927; Edgerton, 1947; Gardiner, 1952; Kitchen, 1993) which introduced severe punitive measures to protect his religious Foundation at Abydos against abuse (e.g., misappropriation of the Foundation's goods) by government officials:

> "Now as to every person who shall be found stealing any goods belonging to the House (the Foundation). Punishment shall be done to him (by) beating him with a hundred blows and exacting the property belonging to the House from him as stolen property, at the rate of a hundred to one." (Griffith, 1927: 202)

Although referred to frequently as the Abydos Foundation, as James (1985) notes the "bye-laws" contained in the decree were "operational far beyond the environs of Abydos" as they were in reality aimed at curbing corruption and asserting *Maat* throughout Egypt. These punishments were more severe compared to those of the Old Kingdom, where similar offences led to removal of the offender from office and confiscation of his property. The emergence of emphasis on the physical dimension of punishment in the New Kingdom seems to be linked to the disorders of the Second Intermediate Period, that long period of disruption that separated the Middle Kingdom from the New Kingdom and the Amarna revolution, both were considered to have eroded the authority of the Pharaoh.

Second, when administrative controls were perceived to be ineffective the desire to re-affirm central control, minimize corruption and restore *Maat* promoted the invoking of supernatural powers in the decree. Only the gods were deemed to have knowledge of, and hence be able to punish, subjects who would have known of an abuse without reporting it:

> "Osiris Khentanenthes, the owner of the person, the owner of the goods, shall pursue him and his wife and his children to blot out his name, to annihilate his soul, to prevent his corpse from resting in the necropolis." (Griffith, 1927: 205)

Given this concern with eliminating corruption and enhancing state power, it is hardly surprising that accounting inscriptions, such as those used in the bakery, focused on uncovering and reporting abuse. Indeed, it is plausible to suggest that the need to re-establish order, improve administration, and secure regular supplies for the army in its extensive campaigns during the reign of Seti I provided the opportunity for the emergence of elaborate accounting inscriptions coupled with severe sanctions. However, one issue that remains unclear is the extent to which accounting inscriptions were used to monitor unintended, but avoidable, waste (performance) over and above intended abuse.

There is little doubt that the expansion of state bureaucracy during the New Kingdom led to an increased use of routine measures of performance and methods of surveillance. New cadres of state bureaucrats and overseers were introduced in all domains, with responsibility to report to higher levels (Kanawati, 1977, 1980). Within state-owned institutions, such as bakeries and breweries, reciprocity was intertwined with legitimate authority. Superiors symbolizing the interests of the state and, as a consequence, endowed with powerful sanctions, wielded 'legitimate' authority over their subordinates. They had the upper hand in forging patterns of reciprocity between their subordinates and the state. Diligent work by subordinates, guided by inscribed codes of order, including accounting, was rewarded by 'appropriate' rations, everyone according to his/her rank (see Chapter 11). Failure of a subordinate to deliver what the state expected was penalized through the imposition of severe sanctions, with punishment extending in extreme cases to innocent family members (Hayes, 1955: 64; Chapter 11).

Employed by the state for the benefit of the state, the idealized inscriptions depicted the scribe as the personification of the Pharaoh's sovereign power over his subjects. Although this mode of coercive domination is not examined here, it is worth noting that, as suggested in earlier chapters, inscribed idealized roles did not always map perfectly onto 'reality'. Moreover, coercion may have been exercized by the scribes over other citizens for the interest of the scribes, and collusion may have taken place between scribes and other officials for mutual benefit at the expense of the state (see Chapter 6).

By virtue of its quantification technologies, accounting provided a basis for converting qualities of subordinates' contributions and inducements into seemingly unambiguous quantities or values, thereby facilitating the comparison of achievements against targets. Further, the rules and procedures deployed by the bureaucracy were imbued with accounting calculation: in the case of the bakery this took the form of balancing quantities of inputs and outputs through the use of predetermined targets reflecting expected numbers, weights, baking ratio, and normal loss. With the help of accounting technologies, scribes could: (i) normalize practices which were deemed important; (ii) differentiate the performance of subordinates, for example, each individual baker, supervisor, and the mayor; and (iii) punish those individuals whose performance fell short of expectations. Thus, the performativity of accounting both ordered and legitimized the status and power of state officials, prominent among them were of course the scribes.

TOWARDS A SYSTEM OF HUMAN ACCOUNTABILITY?

To what extent did the accounting inscriptions of the bakery underpin human accountability? This question has been addressed partly in earlier chapters, but the bakery accounts are nearly complete and hence may offer the possibility of a more thorough analysis. As we have seen, the bakery accounts did not only focus on actual achievements, for the scribes established *norms* of performance which reflected expected deliveries of baked bread from a given amount of grain, after accounting for permitted loss (weight) and quality, *psw*. It is intriguing to note that the allowance of 1/8 to 1/10 natural loss in baking used in these accounts is exactly mirrored by calculations used at least until relatively recently (Moritz, 1958: 195–209). Whether the ancient Egyptians discovered these allowances through the use of informed calculation or by chance, their established *norms* of performance reflect high levels of attainment. Actual deliveries, as we have seen, were counted and weighed and then compared against these norms, and deviations (of both quantity and quality) were calculated and hence it was possible to assess the performance of each baker for every batch of baking on a daily basis even though this does not seem to have reached the detailed level of the individual baking stages.

Productivity Measures

There is no direct evidence to suggest that productivity measures of time-bounded baking targets akin to those used in modern times were developed in order to reveal and confront inferior performance or slack; hence, only a number of preliminary suggestions could be made. First, the baking accounts point to a heavy work burden imposed on bakers which was in line with other occupations (James, 1985; Kemp. 1989). Second, the virtues of honesty and hard work, embodied in *Maat*, were an essential part of social and religious order celebrated in literary works (Simpson, 1973). Third, the baking accounts show a high degree of consistency in terms of the size of the daily batches allocated to each baker (see Tables 12.1 and 12.2). It would be surprising if this was simply a coincidence; rather it is most likely that the baking volume of a particular type of bread per baker per day was based on some notion of time productivity, no matter how crude this may seem. There is some supportive evidence in a letter written by the scribe Bakenamon to the prophet of the Temple of Djhuty (Thoth) Ramose during the Nineteenth Dynasty (1307–1196 BCE) in which he states (Wente, 1990: 125–126):

> “Moreover, don’t worry about the seed-order. I examined it, and I found that three men and one boy, totalling four persons, produce 700 *khar*-measures (of grain). I spoke with the chief record keepers of the granary and told them, ‘Take the three cultivators of the god to serve this year’.

> And they answered me, 'We will do so, look, we will do so. We shall heed your request', so they said to me. I am staying in their presence until they have caused the registration documents to go out to the fields and you find out about everything which I shall have done for you, because it is only one man producing 200 *khar*-measures (of grain) that they have determined for me to carry it out leaving at your disposal two men and one boy, producing 500 *khar*-measures (of grain)."

This quote indicates that measures of output per man (200 *khar*-measures) and per boy (100 *khar*-measures) were "determined" presumably reflecting target levels of performance. Like the bakery accounts, however, it is not certain from this quote if precise productivity measures of time per unit were established for the target outputs per man or boy are not explicitly time-bounded. It may be that workmen were not permitted to leave work until the expected level of output was delivered. Hence, it is difficult to interpret such inscriptions, particularly if they have a sarcastic tone:

> "Addressed by the scribe Pabaki to his father, the draughtsman Maani-nakhtef:
>
> I have heeded what you told me, 'Let lb work with you'. Now look, he spends all day bringing the jug of water, there being no other task charged to him, each and every day. He hasn't heeded your admonition to ask of him, 'What have you accomplished today?' See, the sun has set, and he is still far off [with] the jug of water." (Letter from the Nineteenth Dynasty, Wente, 1990: 137)

At face value a question such as 'What have you accomplished today?' could be taken as an expression of concern with some notion of 'time productivity'. But then, ignoring the sarcasm, if Ib's daily task is to bring a jug of water this hardly points to a serious concern with time allocated to perform a task.

There is also the issue of the unit of account used in recording the baking entries. If one insists on monetary accounting being a requisite of human accountability (Hoskin and Macve, 1988: 33–34), then the baking accounts cannot be considered a system of accountability because bread was not valued using the *deben* measured in gold, silver, or copper but only with it as a *weight* and the *khar* family as capacity measures. If instead one does not insist on monetarization, or if concern is with comparability of the accounts, then it is evident that the baking accounts used suitable account units that provided a common denominator: numbers of a standardized product (specific types of bread loaves); quality measures, *psw,* of non-standardized units of a product; and weights of diverse products (*deben*). These measures were employed repeatedly by the scribes to bring the different accounts into express comparisons, and thereby render them additive.

Finally, it is not clear how the performance level (achievement) of a worker, such as a baker, was related, if at all, to rations. The analysis in Chapter 11 suggests that rations were fixed for members of a particular *class* of workers, but the extent to which skills may have been standardized within each class is not clear. Černý (1954) and Janssen (1975b) cite some inscriptions from the Ramesside period (1307–1070 BCE) which imply 'overtime' payment to some workers in return for the longer hours they worked. There is also evidence of extra provisions which were delivered occasionally by some scribe, on behalf of the Pharaoh, to the workmen as a "reward" for their services. These "rewards" were payments over and above the basic regular rations (Janssen, 1975b) made to groups of workmen rather than to specific individuals who were singled out for reward. Whether these payments represented some form of reward for successful group work, or whether they were simply irregular payments not linked to performance is difficult to ascertain. Černý (1954) also provides evidence which suggests that some of the workmen in the Royal Necropolis in the Ramesside period were paid less than the maximum rations received by other workers because of their absence from work which, he suggests, could have been due to reasons other than illness. While the argument implies that the basic rations were typically not sensitive to changes in achievement but represented payments to ensure the subsistence of workmen, each according to his rank, remains the general rule, it is possible that there were some variations in rations related to exceptional achievement.

Diligence at Work

Diligent work, competence in performing tasks and submission to higher authority celebrated in literary texts and autobiographies were integral to codes of conduct and to doing *Maat*. For example, in his autobiography the steward Rediu-Khnum (Middle Kingdom: 2040–1640 BCE) states (Lichtheim, 1988: 43):

> "I grew up under the feet of her majesty since my earliest youth. Thus she knew the excellence of my performance *(iqr st-. i*) and my fidelity *(mdd-mtn)* to the officials. Then she placed me at Dendera at her mother's great cattle farm, rich in records, a foremost enterprise, the greatest estate of upper Egypt. I have spent a long time here, a span of many years without there being a fault of mine, for my competence was great. I reorganized it also so that its management was made better than it had been before . . . I managed the estate successfully, I enlarged all its departments."

Such boastful texts are clearly idealized and should not be interpreted literally. The important point, however, is that they reveal self-consciousness in avoiding bad reputation for being lazy or incompetent. Similarly, in a painting from the tomb of lntef-iker, one man addresses another, who seems to be interrupting him, "May you, and she who bore you, be driven off by a hippopotamus . . . Look, you are stopping (me from) work" (Parkinson, 1991: 82). It seems that diligence at work was a matter of personal pride and part of social order as much as being the product of administrative control.

Of course, the accounts themselves may have served as one form of regular reporting, as was the case with the accounts contained in the two ship's logs discussed in Chapter 7. For example, the first of these logs (the Papyrus Leiden 1 350 Verso) was kept daily by an official on the ship and was intended as a report to Prince Kha'emwese, son of Ramses II, in his capacity as high priest of Ptah at Memphis. Summary reports were also prepared, albeit over longer time intervals rather than on a daily basis, particularly when the superior and subordinate were geographically distanced from each other. In the main, these reports were meant to provide written assurances to the superior that all was well; most frequently they did not include accounting numbers but it may be assumed that they were informed by some accounts. One example, alluded to briefly in Chapter 9, is the monthly reports prepared by the phyles of the priesthood of the temple of Il-lahun during the Twelfth and Thirteenth Dynasties (1991–1640 BCE) before one phyle replaced the other (Parkinson, 1991: 89):

> "Report of the fourth phyle of the temple priesthood who are withdrawing for the month.
>
> This is their statement:
>
> 'All your affairs are safe and sound. We have examined all the goods of the temple and everything of the temple is safe and sound for the first phyle of the temple priesthood who are entering for the month'.
>
> Report of the first phyle of the temple priesthood who are entering for the month.
>
> This is their statement:
>
> 'All your affairs are safe and sound. We have received all the goods of the temple safe and sound from the fourth phyle of the temple priesthood, who were withdrawing for the month. The temple is flourishing with all goodness.'"

Therefore, confirmation of the items and condition of the inventory in the temple at a particular point in time was obtained by requesting written reports from both the departing phyle and the incoming phyle. Responsibility for the inventory thereby became firmly lodged with the second phyle rendering it unnecessary for the superior to chase after the departing phyle. Reporting on the performance of subordinates necessitated the use of independent observers (or assessors):

> "The general of Pharaoh, l.p.h. [to] the two foremen, the scribe Butehamon, the guardian Kar, and all the necropolis workmen. Quote:
>
> The necropolist scribe Tjaroy and the troop captain and prophet Shedsuhor have reached me; they have rendered report to me of all you've done. What you've done is all right, joining up and carrying out this assignment which I charged you to do and writing me about what you've done." (Letter, Twentieth Dynasty, Wente, 1990: 197–198)

Reporting by these three officials as assessors of the work of this group of workmen and the scribe provides an indication of how the ancient Egyptian administrative machinery sought to provide independent evaluation or an external audit of work undertaken, in a manner that provides a measure of transparency, fairness, and justice, underpinned by *Maat* as order. Another indication of the emphasis on the daily reporting of affairs, which may offer a glimpse of what could have taken place in the bakery, is contained in the *Duties of the Vizier*, an inscription from the early New Kingdom (van den Boorn, 1988: 55):

> "R5 Now, he shall enter to greet the Lord L.P.H. each day when the affairs of the two lands have been reported to him in his residence. He shall enter the Great House when the overseer of the treasury has drawn up his position at the northern flagstaff. Then the vizier shall move (in) from the East in the doorway of the great double-gate.
>
> Then R6 the overseer of the treasury shall come to meet him and he shall report to him saying "all your affairs are sound and prosperous. Every responsible functionary has reported to me saying: 'All your affairs are sound and prosperous; the palace is sound and prosperous'". Then the vizier shall report to the overseer of the treasury saying:
>
> R7 'All your affairs are sound and prosperous. Every department of the residence city is sound and prosperous. The closing of the enclosure on time and their opening on time have been reported to me by every responsible functionary.' Now after both officials have reported to each other, the vizier shall send R8 out to open every door-way of the palace so as to ensure that everything which has to enter enters and likewise everything which has to leave (leaves). It is this messenger who sees to it that (it) happens by means of a writ."

This quote leaves one with little doubt as to the emphasis that the ancient Egyptians placed on the detailed documentation, monitoring, and regular reporting of affairs (specific as well as general), even though this whole exercise also appears to have strong ritualistic tones. Both the vizier and the overseer of the Treasury received daily reports on the affairs of the other. Further, concern for monitoring and verification was a preoccupation for officials below the vizier. For example, during the Nineteenth Dynasty (1307–1196 BCE) the scribe Ramose wrote a letter to the scribe Dhutemhab concerning investigating the cargo of an estate and the output of fishermen (Wente, 1990: 120):

> "What has been done with it? Make an investigation into it in records at the disposition of the agents who assign cargoes and also investigate his (the god's) fishermen's output."

Confronting Poor Performance

Attempts to reveal how performance that fell below expectations was dealt with is rendered difficult by the absence of relevant inscriptions from the bakery accounts. As indicated earlier, extremely punitive measures were stipulated against offenders in the Nauri Decree issued by Seti I, but these related to abuse of the Pharaoh's property rather than to underperformance, thus it is not clear if these sanctions extended to work in the bakery and other state institutions. The *Duties of the Vizier* offer some indirect evidence (van den Boorn, 1988: 77–78) which might shed some light on this issue:

> "R8 It is not to be allowed that any (chief) official controls the dispensation of justice on his (own bureau). When a severe accusation is leveled at R9 one of the officials in his bureau, he (the chief official) will see to it, that he (the subordinate official) is taken to the *ryt* (entrance-area): it is the vizier who will punish him according to his offence. It is not to be allowed that any (chief) official controls (punishment by) beating in his (own) bureau. Anyone who has to be judged and thus falls under the competency of the bureau (of the vizier), will have to be reported to him (the chief official), so that he (idem) may hand him (the subordinate official) over to it (the bureau of the vizier)."

This quote suggests that: (i) in cases of *severe* accusations responsibility for making the ultimate judgment and for the dispensation of justice was vested in the vizier; and (ii) "minor" offences were dealt with by chief officials. It seems rather unrealistic for the vizier, or even his immediate bureau, to see to all these cases throughout the whole of Egypt, even if they were restricted to those cases of severe accusations, unless the vizier had bureaus in every city and town with responsibility for dispensing justice delegated to his immediate officials. The 'bureau' of the vizier may therefore be a 'generic' term referring to numerous local bureaus rather than to only a single bureau. It may also be that vesting this responsibility in the person of the vizier was a symbolic statement aimed at assuring the accused and their families that they will be treated fairly as demanded by *Maat* rather than having their fate decided according to the whims of local officials. Subsequent parts of the *Duties* reveal more interesting details relating to the monitoring of subordinates performance by the vizier:

> "Rl3 Now, as for every act of the vizier when hearing (cases) in his bureau, as regards any one who is (not) efficient in every (duty) concerning which he (the vizier) questions him, namely the one who will be unable to exculpate himself in
>
> R14 a hearing (lit, hearing of him) instituted on the matter, (he) shall be entered on the criminal record which is in the 'great prison'; the same goes for the one who will be unable to exculpate his messenger. If their wrong doing (will) occur for a second time, then there shall be reported and passed on (to the vizier) that they are (registered) on the criminal R15 register (and) a statement on the case for which they were (previously) entered on the register in accordance with their offence." (ibid: 121)

This inscription indicates that the competence of subordinates' in undertaking their duties was monitored and reported upon. Officials accused of inefficiency were given the opportunity to defend themselves; if they failed to give a satisfactory explanation the offence was kept on record for future reference should the subordinate prove to be inefficient for a second time when the vizier would then decide his fate. As van den Boorn (ibid: 129) suggests, these duties point to "an intricate system of checks and controls devised to guarantee the optimal operation of the civil service under the vizier".

The system of accountability contained in the above text was buttressed by elaborate reporting procedures that became enshrined in a formal archive (ibid: 133):

> "R15 As for any written document which the vizier sends (for concerning) any bureau, namely the one which is not (yet) covered (i.e., 'closed'), (it) shall be taken to him with the registers (by) its officials R16 involved, being under the seal of the investigators (lit 'Hearers') and its responsible scribes. He shall open it. After he has inspected it. It will be taken to its proper place sealed with the seal of the vizier. However, if he requests a covered (i.e. ,'closed') R17 document, it is not allowed to be brought by its officials involved".

We should note here the difference between "not closed" (i.e., provisional) and "closed" (i.e., finalized) documents. On the request of the vizier, the provisional documents were taken to him, along with the department register, by the officials involved. Even though these documents carried the seals of the hearers (investigators) and the scribes, they remained provisional until the officials concerned had the opportunity to discuss them with the vizier. Once that happened, and presumably after any necessary modifications had been made, the vizier sealed the document and sent it to the archives. Should the vizier need to consult such a document again, it would not be seen by the officials from the relevant department now that it had become finalized as part of the formal archive. It is also evident that the contents of the provisional documents would have been known in advance to the investigators and the scribes because the document carried their seals. Thus, these documents were an integral part of the vizier's internal control system used to monitor the performance of staff working in government departments. The scribes and investigators involved in these documents were officials acting on behalf of the vizier to facilitate ex-post monitoring of civil government departments by the vizier "at a distance". As van den Boorn (ibid: 144) observes, it would appear from the *Duties* that:

> "the various departments *(h3)* operate in a relatively autonomous manner. They are checked in their activities only to the extent that they are accountable to the vizier in *post factum* inquiries by the *hnrt wr* (i.e., the viziral sub-department). In addition, we may deduce from the present section that the vizier's knowledge of what goes on officially in the central departments rests primarily on written information passed on to him upon request and not on, e.g., verbal reports by officials or viziral messengers. Provisional documents on central departments become finalised and filed by means of strict, institutionalised procedures."

Were accounts, such as those of the bakery, part of these documents and the formal archive? Unfortunately the *Duties* do not tell us, but it would seem rather strange if these documents were not informed by relevant accounts. It would seem even more unlikely if the bakery, as part of the vizier' domain of responsibility, was not subjected to the same monitoring and surveillance process. If we accept that, as van den Boom points out, concern for competence in performing tasks was so strongly emphasized in the *Duties of the Vizier,* why would it not be similarly emphasized in administering the bakery?

In summary, the preceding discussion suggests that the baking accounts went some way towards providing the basis of an ancient system of human accountability, rather than being simple charge/discharge accounts kept for specific individuals. These accounts made use of physical measures and had underlying common capacity and weight units of account that rendered them comparable. They also established norms of performance against which achievements were compared. What we encounter in the above analysis is a preponderance of inscriptions, mainly of an accounting nature but also of administrative and judicial types, all forming important rituals of verification that sought to construct, impose and sustain order in all domains of activity in ancient Egypt.

****

This chapter focused on the role of accounting in ordering the baking process. It is evident that accounting inscriptions rendered the activities of all those involved in bakery, and of the baking process itself, calculable and visible. Through the judicious use of a combination of inscribed physical measures of quantity and quality, superiors could monitor the performance of their subordinates. Performance targets were established reflecting: (i) loss permitted in the baking process; and (ii) the baking ratio *(psw)*, making it possible for the scribes to match the actual *number* and *quality* of loaves produced against targets. Moreover, quantity equivalences were developed and used to aggregate loaves of differing types, sizes and weights. Such physical measures would have provided a sensible means of effectively controlling the activities of the bakery, starting with grain deliveries from the granaries, converting grain into flour, dough and baked bread that is delivered to stores. The accounts reveal remarkable awareness of the input-output flow, with accounting records kept for each stage separately although this level of detail did not reach the individual stages that baking entailed. Further, the quest by the scribes for detail involved keeping separate accounts for each individual baker, thereby indicating *the potential* to hold each individual baker accountable for his performance. The physical monitoring measures used adopted by the scribes were buttressed by powerful social and religious sanctions which inflicted shame and physical and supernatural punishments upon those who were perceived not to have been diligent at work.

The baking accounts went some way towards constituting an ancient system of accountability. While the accounts were kept in physical units, the common denominator reflecting lack of quality or baking dilution, the *psw,* was used to render differing accounts comparable. Performance norms, which took account of normal loss in baking, were developed against which the actual output of each baker was compared daily. Deviations from norms were recorded, but it is not clear how they were acted upon. Similarly, there is sparse evidence which suggests that in a few cases extra rations were paid to compensate for 'overtime' work, but the main rule was that rations were based on rank or function. Accountability could very clearly be traced to each individual baker in a particular location on a specific day. This form of individual accountability was therefore both temporally and spatially designated. What is not clear from the accounts examined, however, is the form of monitoring that occurred. Although some insights could be deduced from a few disparate and sparse inscriptions, we cannot be entirely sure what form of monitoring was actually pursued in a systematic way. In reporting on work progress, we frequently encountered the over arching statement of 'all your affairs are sound and prosperous', a statement that might betray ritualized, wishful thinking that order is preserved, more than a reflection of the state of actual achievement, although some inscriptions are suggestive that incidents of problems at work were reported despite the presence of this statement. Nonetheless, these inscriptions were performative in the sense of bringing into being a state of order not only in the minds of those in positions of power, such as the scribes, but more importantly in the construction of an image of an ordered reality for those toiling with heavy work burdens in state institutions such as bakers, workmen, and farmers. The ritual of inscribing accounts for each baker each day would have served to inculcate a feeling among bakers that every aspect of their work and every activity they undertake is carefully planned and accounted for, in the process creating a work discipline that produced the very effects that these accounts inscribed. Not only was the baking process populated by inscribed accounting measures, equally importantly the body of each baker became a space upon which these accounting measures were articulated, that is, the baker´s body became an encoded message of accounting inscriptions.

In commenting upon the detailed accounting inscriptions of the bakery, it is instructive to ask: why are these accounts so detailed? A number of plausible, yet inconclusive, explanations spring to mind here.[11] While the preceding discussion has focused mainly on the potential for accounting to construct systems of human accountability, alternative explanations are worthy of exploration. One such possibility, hinted at earlier, is the extent to which the baking accounts were ceremonial. In this sense, the emphasis on the detailed recording of activities and elaborate balancing of accounts, at times dealing with enormously large numbers of bread loaves, may have been a way of affirming order and reinforcing and legitimizing the status of the scribes and administrators. While this possibility is plausible, it raises other questions: Why should this tendency be more noticeable in the case of bakeries compared to other activities such as mining or transportation? Why should it happen during the reign of Seti I and not in other reigns? Or did the same concern hold for other eras but the evidence has been lost? Chapter 5 discussed the significance of bread and argued that detailed accounting for bread may be explained by its life giving property in ancient Egypt. But are there other explanations that relate to the reign of Seti I? There are two possibilities.

First, these accounts related to the army. It is widely accepted that during the New Kingdom the army was one of the most powerful and best organized institutions in ancient Egypt, because of the emphasis upon military conquest and empire building (Spalinger, 2005). The argument here is that because the bakeries provided for the army, their activities had to be accounted for in great detail and precision. Inappropriate control over the army bakeries would, according to this argument, jeopardize the effectiveness of the army. Despite its appeal, this argument is perhaps too obvious to take at face value without supportive evidence. More evidence that throws further doubt upon this explanation comes from the reign of Ramesses II, the immediate successor of Seti I. The inscriptions relating to the festival calendar and the festival court in the Temple of Ramesses II at Abydos (Kitchen, 1996: 329–348) show remarkable details concerning different types of foodstuffs expected and delivered at feasts. In the case of bread loaves, the entries note the specific type of bread, its exact baking ratio (*psw*) per *hekat*, the number of perfect loaves delivered and their equivalent expressed in terms of measures of *oipe* (obtained by multiplying the number of bread loaves by the appropriate baking ratio). In these entries, there are no less than eight different baking ratios applied to different types of bread, ranging from 5 through 10, 20, 30, 40, 60, 80, to 100. Almost identical arguments extend to the case of bread offerings made by the Pharaohs to the gods (see Chapter 5). If it was the army that necessitated the precision of control in the bakeries, then how can one extend the same argument to the case of festivities and godly offerings?

An alternative explanation is vested in the effort to reassert Egypt's internal control and state power. The reign of Seti I followed closely the conclusion of the most traumatic cultural and religious upheaval in the history of ancient Egypt, the end of the Amarna revolution. Once this religious revolution was quashed after the death of its founder Akhenaten (1353–1335 BCE) state institutions took drastic steps to mark a return to something close to the previous social and religious order. A reassertion of the strong internal control prerogative exercised by the state prior to the Amarna revolution would have been viewed as a clear signal of a return to the previous order. One way of doing this would be to demonstrate a continuation with previous rituals of detailed accounting and monitoring of the activities of state institutions such as the army bakeries. Plausible as it seems, this explanation too remains no more than a conjecture; in particular while evidence is plentiful that the Egyptian Empire was poorly managed during the reign of Akhenaton, there is no sufficient evidence to point to similar negligence in administering the internal affairs of Egypt.

Part IV

Ordering the Private Domain

13 Ordering Private Estates and the Household

Thus far, the analysis undertaken of the relationship between accounting and order in ancient Egypt has been dealing with inscriptions drawn either from cosmological literature or the administrative and economic domains of state institutions, such as temples, the palace, bakeries, and royal projects. That the analysis has not yet touched upon the role of accounting in creating and sustaining order in the private domain is mainly due to the much greater significance of state activities. Further, not all private affairs were recorded in writing because of high illiteracy and the cost of engaging scribes in private work. This part of the book deals with accounting in the private domain in ancient Egypt.

This chapter examines the role of accounting in ordering the activities of private estates and the household. In particular, the chapter explores the extent to which accounting calculations underpinned the determination of grain rations to the household and ordered the social position of its members during times of normal and high Nile inundation. The analysis shows how inscribing rations in household accounts affirmed and reproduced the different status of individual members of the household. Pursuing the theme of ordering human accountability, the chapter considers the role of accounting in assigning responsibility for certain tasks to the level of the individual, and how the individual accounted for his actions to the owner of the estate. Specific targets of achievements, such as land produce of grain, were stipulated and prices for certain activities, such as land rents, were determined. The chapter also deals with accounting for debt and its collection, and the relative prices stipulated for particular goods using counting methods and monies of account.

The chapter focuses on two economic domains: a farming estate and a household. Both these domains have received some, but by no means sufficient, attention in the literature on accounting history. In the case of accounting for estates, the work of Napier (1991) and Harvey (1994), for example, offers interesting insights into aristocratic and manorial accounting. Similarly, research on household accounting provides much needed understanding of the dynamics of family relations and gender (Fagerberg, 1954; Myatt-Price, 1956; Walker, 1998, 2000). Moreover, numerous publications advise the household on how to manage finances and keep accounts (e.g., Haskins, 1903; Hancock, 1979; Good Housekeeping Diary and Accounts Book, 1996, 1995). These important contributions, however, differ from the accounts examined here in that they relate to much more recent episodes of history, ranging from 1417–1476 A.C.E (After the Common Era) (Myatt-Price, 1956) to 1910–1939 A.C.E (Walker, 2000).

What is evident from the analysis in this chapter is the power of accounting in ordering and constructing economic and social relations in the domains of private estates and the household. Accounting provided metrics that converted activities and commodities into apparently precise quantities to be acted upon by social and economic agents. This quantification rendered the activities of human agents visible to principals acting at a distance. Moreover, even when dealing with concrete, visible commodities, such as grain or bulls, the intervention of accounting sharpened this visibility, by converting what is seemingly concrete into an *abstract theoretical value* as commodities became the site of a multitude of human action, for example, further division of an object into smaller amounts, consideration of alternative uses of the commodities, and facilitation of exchange with other commodities in more precisely denominated values.

MANAGING PRIVATE ESTATES AND THE HOUSEHOLD

The inscriptions examined here are letters and accounts known as the Hekanakhte Papers. The Hekanakhte Papers contain four business letters and five accounts relating to the administration of two private estates and one household while the owner was away on business, and were dated by James (1962: 6) to 2002 BCE (year 8 of the reign of Menthuhotpe, Eleventh Dynasty), although Goedicke (1984: 9) has proposed the date 1986 BCE (year 5 of the reign of Amenemhet I, Twelfth Dynasty).[1] These documents never reached their intended destination; they were discovered in recent times discarded, the seals still on them, in an old tomb. The messenger carrying them (Siahathor, presumed to be one of Hekanakhte's sons) from the North to the South of Egypt either threw them away or was killed while on his way back to the estate.

The Hekanakhte Papers are valuable for several reasons. First, they have survived almost completely intact and so their interpretation is not hampered by serious lacuna. Second, they deal with a wide range of transactions involving distribution of rations and provisions, land renting, payment for manufactured products, such as linen, and debt collection. Third, they cover a few years spanning two different economic circumstances: normal (relatively prosperous) times and hardship caused by high inundation of the Nile. In commenting on their importance Baer (1963: 1) states:

> "the two letters that Hekanakhte sent to his family are unparalleled in ancient Egypt, both for the light that they shed on the personality of an elderly farmer living in the fall of 2002 B.C. and for the inherent interest of the matters discussed in them. They are virtually the only source of Egyptian agriculture before the New Kingdom and the sole surviving texts from ancient Egypt to give the cultivator's point of view rather than that of the administrative landlord."

Hekanakhte was staying in Memphis in the North of Egypt, visiting his estate in Nebesyt in the South only occasionally. While away from the estate, he instructed his agent on matters relating to the administration of his affairs and household which he finalized during his visits to the estate. While away in Memphis, changes in circumstances may have necessitated a fine-tuning in the administrative arrangements, hence the role of the letters he sent to the agent. While there is an element of overlap in terms of the activities covered by individual letters and accounts, each tends in the main to deal with a distinct set of issues, but for convenience their analysis here will not adhere to the order in which they were written.

Accounting for the Household

Table 13.1 The Hekanakhte Papers: (Letter II)*

(1) A son speaks to his mother; the *ka*-servant Hekanakhte to his mother Ipi, and to Hetepet: How are you? Are you alive, prosperous and healthy? In the favour of Monthu, Lord of Uaset! (2) –and to the whole household: How are you? How are you? Are you alive, prosperous and healthy? Do not worry about me. See! I am healthy and alive. (3) See! You are that one who ate until he was satisfied and hungered until his eyes sunk (into his head) (?). See! The whole land is perished while [you] are not hungry. [See!] (4) when I came hither southwards I had fixed your rations properly. [Now] is the inundation [very great (?)]? See! [our] rations are fixed for us (5) according to the state of the inundation. Be patient, like names. See! I have reached today among you, nourishing you.

–Rations should be measured for Sinebnut (6) from his barley which he had on his threshing-floor(?), until he leaves Perha'a–

(7)	Account of the rations of the household:	
(8)	Ipi	8 *hekat*
(9)	Her maidservant	
(10)	Hetepet	8 *hekat*
(11)	Her maidservant	
(12)	Heti's son Nakhte	8 *hekat*
(13)	Together with his family	
(14)	Merisu <and> his family	8 *hekat*
(15)	Sihathor	8 *hekat*
(16)	Sinebnut	7 *hekat*
(17)	Anupu	4 *hekat*

Continued

Table 13.1 Continued

(18)	Snofru	4 *hekat*
(19)	Si-inut	4 *hekat*
(20)	M'ay's daughter Hetepet	5 *hekat*
(21)	Nofret	3½ *hekat*
(22)	Situret	2 *hekat*
(23)	Total	7 *khar* 9½ *hekat* (?)

(24) If you avoid being angry about this, (25) See! The whole household are like my children: (26) everything is mine–(for it is said) that 'half-life is better than death outright'. (27) See! One says 'hunger' about hunger. See! they are beginning (28) to eat men here. See! there are no people to whom those rations are given anywhere. You shall conduct yourselves with stout hearts until I have reached (29) you. See! I shall spend the *shomu* here.
Communication by the *ka*-servant Hekanakhte to Merisu and to Heti's son Nakhte subordinately. You are to give those (30) rations to my people while they are doing work. Take great care: hoe all my land: sieve with the sieve; back with your noses (31) in the work. See! if they are diligent god will be praised for you and I shall not have to make things unpleasant for you. Now one should begin by giving the (32) rations about which I have written to you, on the first day of Khentkhetiperty, for a new first day. Do not be neglectful then (33) about the 10 *arouras* of land which are in the neighbourhood and which were given to Ip the Younger's son Khentykhe–about hoeing it. Be very diligent. See! you are eating my rations.

(34) Now, any possession of Anupu's which you have, give it (back) to him; whatever is lost, make it up to him. Don't make me write to you about it another (35) time. See! I have written to you twice about it. Now if Snofru does want to be in charge of those bulls, you should put him (36) in charge of them. Now he did not want to be with you cultivating, going up and down; nor did he want to cone hither with me. Whatever else he wants (37) you should let him enjoy what he wants. Now anyone who will reject those rations out of the women and men, (38) he should come to me here (to be) with me and live as I live. Now there is no one who has come here to me.

I said to you: 'Do not keep away (39) a companion of Hetepet's from her, whether her hair-dresser or her domestic servant(?). 'Take great care of her. May you prosper (40) in all things thus. Now (if) you do not want her, then you should send Iutenheb to me. As this man lives for me–I speak of (41) Ip–he who shall commit any act upon the person (?) of (my) concubine, he is against me and I am against him. See! this is my concubine (42) and it is known what should be done for a man's concubine. See! whoever will do for her the like of what I have done–Indeed, would anyone of you (43) be patient if his wife had been denounced to him? Then shall I be patient! How can I be with you in the same establishment? (44) No! You will not respect (my) concubine for my sake.

(vs, 1) Now see! I have sent you by Sihathor 24 copper *debens* for the renting of land. Now let (vs.2) 5 (?) *arouras* of land be cultivated for us on rent in Perha'a beside Hau the Younger('s land), with copper or with clothes or with barley (vs. 3) [or with anything (else)], but only when you have collected the value [there(?)] of oil or of anything (else). Take great care; be very diligent; be watchful. (vs.4) Now [see!] you are on good unworked (?) land of Khepesheyet.

(vs. 5) What the ka-servant Hekanakhte gives (vs.6) to his household of Nebeseyet.

* Source: James, T.G.H. (1962), *The Hekanakhte papers and Other Early Middle Kingdom Documents*, New York: 32-33.

As evident from Letter II (Table 13.1), Hekanakhte determined the rations for members of his household on the basis of the level of Nile inundation. While away in Memphis, the size of the inundation increased substantially leading Hekanakhte to fix lower rations and instruct his agent Merisu to adhere to them. The rations are expressed in *hekat* measures of barley, with one *hekat* equalling 1/10th of one *khar*. The total of the rations is stated as 7 *khar* and 9 ½ *hekat* measures, one more *khar* than the aggregate of the individual rations. Both James (1962: 34) and Baer (1963: 7) suggest that the correct total is that of the individual rations which were later reduced in writing but without changing the total.

What the Letter does not show is how low the new rations are compared to their previous levels. The reductions must have been sizeable because Hekanakhte was careful to tell his household how lucky they were to have the lower rations given the hardship of others, including himself. Hekanakhte states in the letter that the new rations are to be applied from the beginning of the month following the one in which the letter was written, and are to be continued until the next harvest. When comparing the rations of 8 *hekat* measures for each of Nakhte, Merisu and their families against the 4 *hekat* measures for Snofru (a favoured boy; see in Letter III in Table 13.6) or the 5 *hekat* measures fixed for M'ay's child Hetepet, it appears as if the allocation of rations was not fair on the families. This has led James (1962) to surmise that older members of the household with dependants must have had other sources of income, but inscriptions supporting this view are lacking. The rations in general were fairly tight possibly reflecting the crisis caused by the high Nile inundation; and Baer (1963: 7, footnote 49) estimates that they were close to half the normal rations.

Later on in the Letter, Hekanakhte turns his attention to economic matters. He instructs his agent Merisu to rent land in Perha'a using an item (a piece of cloth woven in Memphis and sent along with the letters; see Table 13.1) valued by him at 24 copper *debens*, but he considers a number of other possibilities including other cloth, barley, oil, and indeed anything else that would ensure clinching the deal.

These accounting inscriptions dealing with the household have several implications. First, a principal, such as Hekanakhte, is able to stipulate to his agent through accounting inscriptions how the economic domain of his household should be managed in his (the principal's) absence, thereby allowing him to both manage and monitor his affairs at a distance. Second, accounting inscriptions provide the agent with a plan of how to manage the household so that he can account for his actions to the absent principal. Third, the quantification of subsistence through the use of accounting technologies made it possible for Hekanakhte to link annual rations to the size of the inundation and to construct a minimum standard of living for members of his family. Fourth, the intervention of accounting in Hekanakhte's household established and reinforced a social structure for each member of the family both in terms of level of rations and pecking order. In Letter II, Ipi, Hekanakhte's mother, and Hetepet, assumed to be his aunt, head the list and each (along with her maidservant) were allocated the highest ration of 8 *hekat* measures which was matched only by three other members of the household who had families. Thus, the mother and aunt were each allocated the highest rations: an assertion of respect and privilege through the accounting numbers. There follows a listing of the rations for seven males (some with families) concluding with three females who were presumably not elderly. Fifth, although Hekanakhte decides on the rations himself, he still appeals to consensus over the rations by the recipients (Goedicke, 1984: 13). Hence, the apparent accuracy and transparency of accounting intervention was underpinned by a desire to secure social harmony and consensus. In this way *Maat* as justice and order could be seen as an important glue that bonded social relations.

Table 13.2 The Hekanakhte Papers: (Letter I)*

(1) Communication by the *ka*-servant, Hekanakhte, to Merisu: Whatever is inundated in our land–it is you who are cultivating it–woe to all my people and to you! See! (2) I consider you responsible for it. Be very energetic in cultivating; take great care! My seed-corn should be looked after; all my property should be looked after. See! (3) I consider you responsible for it. Take great care of all my property.

Get Heti's son Nakhte to go down with Sinebnut to Perha'a (4) to cultivate [for us] 5 *arouras* of land on rent; and they shall take its rent from the *mn*-cloth woven where you are. Now if they have collected (5) the value in exchange for the emmer that is in Perha'a, they shall use it there also. You will have no more concern then with the (6) *mn*-cloth about which I said: 'Weave it, and they shall take it when it has been valued in Nebeseyet and rent land against its value.' Now if (7) it pleases you to cultivate 5(?) *arouras* of land there, cultivate it. And you shall sow land–2½ *arouras* of land with emmer and 2½ *arouras* of land with barley–(8) [good] land [of] Khepesheyet. Do not go down on to any man's land. You shall ask for (some) from Hau the Younger. If you do not find (any) (9) with him, then you shall go before Hrunufe; it is he who can put you on to unworked(?) land of khepesheyet.

Now see! when I came (10) hither southwards you had reckoned to me the rent of 7½ *arouras* of land in barley [alone]. Take great care! Avoid (11) purloining (one) *khar* of barley therefrom. Do not sow with the barley belonging to it, because you have made the renting of it unpleasant, as far as I am concerned, with barley alone and (12) its seed. Now see! as for one who has sown with barley–as for the barley, 69(?) *khar* in 7½ *arouras* of land is 9 *khar* of barley in one *aroura* of land. See! (13) it is not a bad yield. See! 10 *arouras* of land (ideally) equal(?) 100 *khar* of barley. Take great care! Avoid dealing arbitrarily (14) with one *hekat*(?) from it of barley. See! this is not the year for a man to be lazy in respect of his master, his father or his brother.

Now as for (15) everything that Heti's son Nakhte will do for (me) in Perha'a,–See! I have not reckoned an allowance for him beyond one month, namely, one *khar* of barley. (16) I shall reckon another second (allowance), namely, 5 *hekat*(?) for his family upon the first day or the month. See! if you disobey this, see! I shall lay it upon you as purloining. (17) Now as for this which I told you, saying: 'Give him a *khar* of

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Table 13.2 Continued

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barley per month', you are to give him in fact 8 *hekat*(?) of barley per month. Take great care'.

(vs. 1) Now what about that sending Sihathor to me with old, dry barley that was in Djedisut, (vs. 2) without my being given those 10 *khar* of barley in good new barley? Is it not the case that you, therefore are happy, eating good barley while I am neglected? Now the boat (vs. 3) is moored at your town and you are doing in fact all evilness. If you had sent me the old barley in order to keep together that (vs. 4) new barley, what could I say?–'How good it is'. –But if you have not reckoned for me a single (*hekat*) of barley from the new barley, I shall not reckon it for you (vs. 5) for ever.

Now I have been told that Snofru….Take great care of him. Give him an allowance. And greet (vs. 6) Snofru–as Khentykhe says–a thousand times, a million times. Take great care! and write to me. Now if my land is inundated while he is cultivating (vs. 7) with you and with Anupu, woe to you and to Sihathor.' Take great care of him. You shall send him to me after the cultivating. Get (vs. 8) him to bring me 3 *khar* of wheat together with what you can find of barley–but only in excess of your allowances until you reach of *shomu*.

(vs. 9) [Do not neglect] everything about which I have written to you. See! this is the year for a man to work for his master. Now as for all the affairs of my estate(?), (vs.10) and all the affairs of my farm(?) in … wy, I have sown it with flax. Do not let anyone go down(?) upon it. Now as for anyone who shall speak (vs. 11) to you, you shall go upon it…(?) Now sow that far with barley; do not sow emmer in it. Now if it turns out to be a big inundation (vs. 12) you shall sow it with emmer.

Take great care of Anupu and Snofru: you die with them and you live with them. Take great care! See' there is no one more important (vs. 13) than he in that house with you. Do not be neglectful about it (i.e. the situation). Now have the housemaid Senen turned out of my house–take great care!–(vs. 14) on whatever day Sihathor reaches you. See! if she spends a single day in my house …(?): it is you who let her do evil to my concubine. (vs. 15) See! why should I make it unpleasant for you? What can she do to you–the five children? And greet my mother Ipi a thousand times. (vs. 16) And greet Hetepet and the whole household and Nofret. Now what about that doing evil to my concubine? You have done for yourself(?). (vs. 17) Are you established with me as partner? If you desist, how good it is'.

And send and account of what is to be collected, being the produce of Perha'a. Take great care! Don't be neglectful.

(vs. 18) What the *ka*-servant Hekanakhte gives (vs. 19) to his household Nebeseyet.

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* Source: James, T.G.H. (1962), *The Hekanakhte papers and Other Early Middle Kingdom Documents*, New York: 13-14.

Accounting for Farms

Letter I (Table 13.2) is concerned with the management of economic affairs and only at the very end deals with some matters of the household.[2] The first part of the Letter contains a reminder to Merisu of his responsibilities towards Hekanakhte's property, land ploughing, grain seed, and members of the household. The second part relates to renting 20 *arouras* (one *aroura* is about 2/3 of an acre; see Gardiner, 1957: 266) of desirable land (land of Khepesheyet) in Perha'a (mentioned at the end of Letter II), a task which is to be assigned by Merisu to Nakhte. As the other letters reveal, the choice of Perha'a is deliberate for Hekanakhte already has business interests there. Half the rented land is to be cultivated with emmer and half with barley. Negotiations for land rental were to be conducted only with Hau the Younger, and failing that Hrunufe, the latter being an official at Perha'a responsible for administering landed property. The cloth was to be sent with the letters as payment for land rental, and, as we have seen earlier, was valued in Letter II by Hekanakhte at 24 copper *debens*. Because this is a personal valuation, Hekanakhte instructs Merisu to have the cloth valued in Nebeseyet (his home town) before taking it to Perha'a. If the cloth was valued at less than 24 copper *debens*, debts (to be collected in the form of emmer) owed to Hekanakhte would be added to the price of the cloth in order to secure renting the land.

The third part of the Letter deals with the 69 *khar* (sacks) of barley from 7 ½ *arouras* of land collected by Merisu for Hekanakhte which seems to be the produce of a joint ownership to be shared equally by both men. James' translation here is at odds with the translations of Baer (1963: 4), Goedicke (1984: 43), and Wente (1990: 59) who read these figures as 65 *khar* produced from 13 *arouras* (a yield of 5 *khar* measures per *aroura*). This share, Hekanakhte contends, is fair as it represents a conservative assessment of the produce, because 10 *arouras* of land should produce at the very least 100 *khar* of barley (line 13); hence the share of 5 *khar* from one *aroura* mentioned in the Letter. As this quantity of barley belongs to Hekanakhte, it was not to be used by Merisu for another venture, nor indeed to be misappropriated by him.

The fourth part of the Letter stipulates Nakhte's ration in return for his dealing with the land to be rented in Perha'a. Initially, Nakhte's ration is fixed by Hekanakhte at one *khar* (10 *hekat*) of barley, reduced to 8 *hekat* measures which Goedicke (1984: 41) interprets negatively, in addition to 5 *hekat* for his family left in Nebeseyet:

> "This seeming act of munificence has only a slight flaw. It seems that Hekanakhte had second thoughts about his payment to Nakhte and thus instructs Merisu to cut it twenty percent. Aside of its economic and human sides—it seems that Hekanakhte was not excessively fond of Nakhte."

However, Goedicke's reading may be problematic on two accounts. First, even with the reduction of 20 percent, Nakhte and his family were allocated 13 *hekat*, much higher than the highest allocation fixed in Letter II, including that of the main agent Merisu and his dependants, which makes it difficult to reconcile the suggestion that Hekanakhte disliked Nakhte. Second, it is possible that Letter I was written over several months when the allocation of 10 *hekat* measures was based on a more optimistic expectation of normal inundation, which was later scaled down when the higher level of inundation became clear. Given the small amount of barley allocated to his dependants in the first instance, any further reduction may have been harsh.

The remainder of the Letter covers a number of other items. It includes complaints that Hekanakhte was sent old, instead of new, barley with a clear instruction that future barley deliveries to him had to be in fine, new barley. Hekanakhte also instructs Merisu that inundated land must be ploughed and cultivated with barely, and only with emmer in case of high inundation, but on no account should it be leased. Finally, there are other details concerning the household, such as protection of the rations of Snofru, whom Merisu had reported for being lazy, and Anupu, as well as Hekanakhte's wife. The Letter concludes by requesting an account from Merisu for the collection of outstanding debt from Perha'a.

Letter I therefore shows how the intervention of accounting inscriptions in the household ordered various business and family matters for Hekanakhte. The Letter specifies instructions to the agent, Merisu, concerning land rental, valuation of items (a cloth), land ploughing and cultivation, rations to be paid to Nakhte for managing rented land, and accountability over his share of barley produced from joint ownership of land and collection of outstanding debt. Even when these responsibilities are stated in descriptive terms, for both Hekanakhte and Merisu there was a way of quantifying and valuing activities and items involved given that they both inhabited a world in which accounting calculations prevailed.

The most detailed inscription in the Hekanakhte Papers is Account V (see Table 13.3), comprising six smaller accounts and written over a period of three years (James, 1962; Baer, 1963). The Account contains entries detailing amounts of emmer, barley, bundles of flax, cakes and bread loaves, wood, and 20 bulls. The translations by James (1962), Baer (1963), and Goedicke (1984) show different readings of some numbers owing to lack of clarity of the original inscription, and attempts to reconcile these differences are difficult (see, for example, James, 1962).[3] Baer (1963: 18) is closer to the mark in arguing that "it is safer simply to take the accounts as separate entities", and to focus upon their wider economic and social implications.[4] Account V is particularly valuable for two reasons. First, it lists responsibilities for specific tasks entrusted to agents (or sons) of Hekanakhte while he was away from his estate to facilitate managing his affairs at a geographic distance. Second, in contrast to Letters I and II, which reveal much of the hardship felt during the period of high Nile inundation, Account V shows the entitlements of members of the household during a relatively more prosperous period.

Account V lists specific instructions from Hekanakhte to his agents. For example, Merisu was responsible for the quantities of barley and emmer entrusted to him by Hekanakhte, for distributing the barley and flax that

Table 13.3 The Hekanakhte Papers (Account V)*

(Account 1)				
(1)	Regnal year 5, month 2 of *shomu*, day 9			
(2)	Account of the barley of Hekanakhte			
(3)	which he handed over to Merisu:			
(4)	New barley			112 (*khar*)(?)
(5)	New Emmer			63 (*khar*)(?)
(6)	[Old barley(?)]			10 (*khar*)(?)
(11)	His produce for the bulls: barley, 4 (*khar*), emmer 10.5 (*khar*).			
(12)	Equivalent to the barley which Hekanakhte fixed for his tenant-farmers:			
(13)	Sihathor	40.6 (*khar*)	bundles(?)	100
(14)	Merisu	50 (*khar*)	″	110
(15)	Sinebnut	40.6 (*khar*)	″	100
(16)	land–1 *aroura* of flax			
(17)	12 (*khar*) (?).			
(Account 2)				
(18)	[Account] of the bulls which Hekanakhte handed over			
(19)	[to Si]nebnut			
(20)	[Bulls(?)]			3
(21)	Cows [which have recently calved (?)]			11
(22)	Young cows (?)			5
(23)	Young bulls (?)			1
(24)	Bulls for teams			15 (?)
(25)	Now [if] Sinebnut calls to (26) [Heti's son Nakhte about] the matter of a bull that (27) goes up (?), that he should catch it, and he does not go, (28) half of its price is upon him and (a half on) (29) Heti's son Nakhte.			
(Account 3)				
(30)	Account of the bread which Merisu gave to Hekanakhte:			
(31)	*s3rt*-cakes 1000; *bhsw*-loaves 500			
(32)	*tr-sst*-loaves 700			
(33)	The total of *tr-sst*-loaves is 6000.			

Continued

Table 13.3 Continued

(Account 4)			
(34)	Regnal year 8: Account of Hekanakhte's balance which is with Merisu:		
(35)	Barley 12.5 *khar;* 13 *khar* (emmer)		
(36)	Grand total, 25.5 (*khar*)		
(Account 5)			
(37)	Regnal year 8: Account of the barley and emmer which are outside:		
(38)	Specified by each man by his name:		
(39)	Ishetni's son Senuhotpe	18	(*khar*)
(40)	The mayor Hetep-Khnumu	7.5	"
(41)	Semekhsen's son Khety'ao	4.5	"
(42)	Nefersedjeret's son Se'ankhsobk	5	" (emmer)
(43)	Woseret's son 'Ankh	5.25	" "
(44)	Kha's son Ipi	1	" "
(45)	'Ankhni's son Ipi's son Khentkhetihotpe	3	(*khar*) (emmer)
(46)	Metjenet's son Khenthetihotpe	30	" "
(47)	Total: barley, 33 *khar*; 41.25 (emmer)		
(48)	Grand total:	74.25	*khar*
(49)	Renenrehet's son Ishetni	3	*khar*
(50)	Khety, the scribe	1.5	"
(51)	Shed's son Nakhte	1.5	"
(52)	Meru's son Khety	1.5	"
(53)	Shed's son Shed	3	"
(54)	Total:	10.5	*Khar*
(Account 6)			
(vs. 1)	Account of (pieces of) wood:		
(vs. 2)	Willow 5. in the rear part of the house(?)		
(vs. 3)	Mast in the forecourt		
(vs. 4)	Pieces of moringa (?) wood 1		
(vs. 5)	Pieces of sycamore-fig wood 3, large		
(vs. 6)	*rwrst*-board 1		
(vs. 7)	Cabin of willow, equivalent to 60 planks.		
(vs. 8)	*i3m*-trees 4		

Continued

Table 13.3 Continued

(vs. 9)	Acacias	5
(vs. 10)	Acacia beams	1, large.

* Source: James, T.G.H. (1962), *The Hekanakhte papers and Other Early Middle Kingdom Documents*, New York: 52-54.

Hekanakhte fixed for each tenant-farmer, including Merisu, and for quantities of cakes and bread loaves. Sinebnut was responsible for looking after the bulls. The remaining part of the Account details amounts of emmer and barley due to Hekanakhte, in addition to a list of different types of wood.

Before departing for Memphis, Hekanakhte left with his household, at the most conservative reading, 73 ½ *khar* of emmer (equivalent to 49 *khar* of barley), 126 *khar* of barley (268 if we accept Baer's suggestion of taking the different parts of the account as separate), and 1410 bundles of flax. Given that the rations specified in Letter II for the year of inundation for the whole of Hekanakhte's household amount to 93 *khar* (6.95 + .8 for Hekanakhte per month multiplied by 12), a total of 175 *khar* (49 + 126) at least appears to offer a far higher subsistence level. Indeed, given that a number of the members of Hekanakthe's household who were mentioned in Letter II and included in the monthly allowance are not listed in Account V, it is possible that the provisions offered were much more generous than calculated. Against this, however, it may be that the provisions were not only intended for household consumption but also included amounts of emmer and barley to be used as seed and as annual payment for the land rented for cultivation by Hekanakhte's agents.

Another means of attempting to gain further insights into the magnitude of difference in the provision between 'good' and 'bad' years is to compare the figures for the same person over the two different years. In Account V, for example, Merisu was given 50 *khar* of barley for the whole year. In Letter II, he was given a provision of 8 *hekat* of barley, which over a whole year would come to 96 *hekat* (or 9.6 *khar*). The 50 *khar* of barley is perhaps too high a figure to accept; however, if it is taken as Merisu's aggregate provisions for the three year period of the Account, then the average annual provision is 16 2/3 *khar*, fairly close to the rations which Baer (1963: 7) calculates to be the norm for a 'good' year.

Contrasting these accounting calculations of rations for members of Hekanakhte's household during the two periods of high and normal Nile inundation can be seen to be invested with the essence of *Maat* as justice and order. High Nile inundation was a manifestation of disorder for it seriously disrupted the orderly agricultural activities of Egypt with significant drop in the amount of produce. In such a state of disorder, accounting calculus operated to assert a form of temporary order, one in which the misery was shared justly among all. Such periods of high inundation required a state of emergency to be observed not only at the level of the state but also at the level of the household, and accounting technologies were at hand to allow the determination of new, more stringent rations. A return to normal inundations signified a return to natural order, hence also the return to the more ‘generous’ levels of rations. Accounting technologies were therefore performative in producing rations that conveyed states of high and normal Nile inundation. The levels of rations readily acted as signs of the perceived status of the inundation level: low rations were the signifiers, with the signified being high or low inundation.

Other parts of the Hekanakhte Papers deal in part with similar activities to those discussed earlier, but also expand into new activities. Thus, Account VII (Table 13.4) which belongs to Sitnebsekhtu, presumed to have been Hekanakhte’s friend or distant relation, contains three sets of entries: (i) instructions concerning the distribution of grain in a place called Hes-

Table 13.4 The Hekanakhte Papers (Account VII)*

(1)	Account of emmer which is [in Hes-wer(?)]:		
(2)	Low-lying ground		
(3)	Storehouse		30.2 *khar*
(4)	Emmer		1.9 “ in the measure
(5)	*mhryt*-building		3.2 “ in the town
(6)	House of Mentu-nakhte		23 “
(7)	House of Tjai’s son Nakhte		2 “
(8)	[Total of] the month’s provisions		60.3 (“) in the town
(Account 2)			
(9)	What is with Sitnebsekhtu		
(10)	being the balance of the yarn	20 (bundles)	
(11)	on the first day of Shefbote		
(12)	Flax	1020	60 (?)
(13)	…….	7 (?)	
(14)	[In the] magazine (?)	10 *khar*	
(15)	Neferseban begins with the rations in Rokeh (?) …for(?) Tep-oner(?).		
(vs.1)	Account of the emmer which is in Hes-wer(?)		
(vs.2)	What is with Sit (neb)sekhtu.		

* Source: James, T.G.H. (1962), *The Hekanakhte papers and Other Early Middle Kingdom Documents*, New York: 66-67.

wer; (ii) payment to Sitnebsekhtu in return for linen made in her estate; and (iii) dates for distribution of provisions.

Concerning the distribution of grain, the total amount recorded as available is 60.3 *khar*, as stated on line 8 (the summation of the entries on lines 3–7 detailing how that total should be distributed). Most of this (53.2 *khar*) was targeted at the Storehouse and the House of Montu-nakhte, a tenant-farmer. Line 4 indicates that a distribution of 1.9 *khar* emmer is to be made "in the measure", which Goedicke (1984: 104) translates as "exactly" in order to signify exactitude in payment and to rule out the acceptability of a substitute payment. Line 5 states the distribution of 3.2 *khar* in the "*mhryt*-building" which Goedicke (ibid) translates as being acceptable in kind.

The second part of Account VII shows transactions of linen. It is evident that the activities of this estate did not revolve solely around agriculture, but also included making yarn. Entries 9–10 detail the delivery of a quantity of yarn (20 bundles) produced for Sitnebsekhtu who was apparently concerned with textile production on a commercial basis, as her name suggests that she came from a family of weavers (ibid: 108). The key to understanding this part of the Account is the entry on line 12 which specifies the quantity of flax as the raw materials used to produce linen, at the payment rate of one *khar* of grain per 60 bundles of flax. Goedicke (ibid: 104) reads the second number on line 12 as 1/60 instead of 60; and James (1962: 69) indicates that this reading is possible. Given 1020 bundles of flax at that conversion rate of 1/60, the total payment due for manufacturing linen using 1020 bundles of flax is 17 *khar*. Of this amount, 7 *khar* is recorded on line 13, leaving a remainder of 10 *khar* relating to the (linen) workshop (line 14), suggesting that the 17 *khar* had to be paid in two sums (Goedicke, 1984: 109).

The third part of Account VII (particularly line 15) indicates that the headman Nefersebau employed by Sitnebsekhtu should distribute provisions at a specific date which is difficult to read, but Goedicke (ibid: 104) has suggested the reading "when the head of the river had come down", that is at the end of the inundation.

Account VIII (Table 5, misplaced and translated later by James, 1968) shows a summary of the barley and flax produced by two types of landholding: the "*rw*" or what Goedicke (ibid) translates as the "Low-land", and the "Upland", along with distributions to members of Sitnebsekhtu's household. Barley is measured in *khar*, and flax in bundles. Upland required artificial irrigation, hence its lower productivity compared to Low-land. Lines 6–14 name five men (including Nefersebau, the agent mentioned in Account VII) and three women (lines 7, 11, and 14) as recipients of the barley and flax. It is possible to account for the flax, and probably the barley belonging to the Upland. Line 3 shows 7000 bundles of flax which equal the entries on lines 5, 15 and 16 (1000 + 2000 + 4000).[5] The Upland barely entries (lines 6–16) total 208 *hekat* (20 + 30 + 30 + 35 + 5 + 21 + 10 + 10 + 10 + 7 + 30) which equals the entry on line 4 (20 *khar* = 200 *hekat*) plus 8

Table 13.5 The Hekanakhte Papers (Account VIII)*

1.	Account of what is in the *rw*:	
2.	Consisting of northern barley	36.2 (*khar*) .3 (*khar*) in the measuring vessel
3.	Flax	7000 (bundles)
4.	Upland: barley	20 (*khar*)
5.	Upland: the house	1000 (bundles)
6.	What Nefersebau brought	20 (*khar*)
7.	Ip's boat	30 (*khar*)
8.	'Aha….'s son (?)….khered	30 (*khar*)
9.	His father	35 (*khar*)
10.	……	5 (*khar*)
11.	The women…. (?)	20.1 (*khar*)
12.	The old man	10 (*khar*)
13.	The hit(?)	10 (*khar*)
14.	'Ab-kau	10 (*khar*)
15.	2007 *nchw*-bundles	
16.	Balance 4000 (bundles), 30 (*khar*)	
17.	Upland 8 (*khar*)	
18.	h3(?)	
19.	Another <account of what is> with Huni (?), without his giving it.	
Vs.1.	What is in Tjauwer.	

* Source: James, T.G.H. (1968), "An early Middle Kingdom account", *Journal of Egyptian Archaeology*, Vol. 54: 52-53.

hekat on line 17. Why the low-land barley was not distributed is not clear. The Account separates the barley of the low-land, presumably of a higher quality, from that of the Upland.

Just as we have seen in the case of estimating tax burden (Chapter 6), it is evident from the details of Account VIII that accounting metrics differentiated between more (normal irrigation) and less (artificial irrigation) fertile lands in calculating land productivity. This differentiation of productivity was the quintessential meaning of *Maat*, in being just and fair, for it would be a breach of *Maat* to demand the same productivity from those working on both types of land given their differing fertilities. The levels of demanded productivity, as the product of accounting calculations, were performative in being inscribed onto each type of land and thereby constructing precise designations of more productive and less productive lands.

ACCOUNTING FOR PRIVATE DEBT

This section examines the methods used to record private debt and to monitor its collection inscribed in Letter III and Account VI of the Hekanakhte Papers.

Letter III (Table 13.6) was sent from Hekanakhte to an official, the Overseer of land Herunufe, hence the more humble way in which Hekanakhte describes himself in contrast to the authoritative tone used when writing to his agent Merisu. Hekanakhte was owed debts (hinted at in Letter I) by some individuals in Hut-ha'a, close to his home town, and the assumption is that Herunufe would oversee the collection of these debts. The participation of this official, as someone who would mediate if required between the two parties to the debt, endowed the inscription with legitimacy. Goedicke (1984: 77) also suggests that the presence of Herunufe signals that "the property of the debtor served as security against defaulting", given Herunufe's title as overseer of land. The intervention of Herunufe was not cost free, for he is to be paid a fee by Hekanakhte stated to be the customary fee that is "usually given".

The debt to be collected is specified by the name of the debtor and by the type of good, so that a clear distinction is made between barley and emmer as one *khar* of each commanded a different value (one *khar* of barley = 1

Table 13.6 The Hekanakhte Papers (Letter III)*

(1) The servant of the estate, the *ka*-servant Hekanakhte says to–:Your condition is like living a million times. May Arsaphes, lord of Heracleopolis, and all the gods who are<in heaven and in earth>help you. (2) May Ptah-south-of-his-wall cheer you with life greatly and with <good> old age. (3) May your repute be good with the *ka* of Arsaphes, lord of Heracleopolis.

This servant says: Let your scribe (1.p.h) know (4) that (I) have sent Heti's son Nakhte and Sinebnut about the barley and emmer which are there (where you are). Now what your scribe (1.p.h) should do is to have (it) collected without letting (5) any of it be mixed up, in accordance with all your excellence, if you please. Now after it is collected (it) shall be placed in the house of your scribe (1.p.h) until somebody comes about it. Now see! (6) I have got them to bring the corn-measure in which it is to be measured; it is decked with black hide. Now see! 15 *khar* of emmer are in Hut-ha'a (7) with Neneksu and 13 *khar* 5 *hekat* (?) of barley with Ipi the Younger in Iu-sobku. What is in Sepat-mat with Nehri's son Ipi: 20 *khar* of emmer (8) <with> his brother Desher, 3 *khar*. Total: 38 *khar* (emmer), 13 *khar* 5 *hekat* (?) (barley). Now he who will give me the equivalent in oil shall give me one *hebnet*-measure for 2 *khar* of barley or for 3 *khar* of emmer. (vs. 1) But see! I prefer to be given my property in barley.

And let there be no neglect about Nakhte (i.e.) about anything about which he will come to you. See! (vs. 2) it is he who looks after all my property.

(vs. 3) The overseer of the Delta, Hrunufe.

* Source: James, T.G.H. (1962), *The Hekanakhte papers and Other Early Middle Kingdom Documents*, New York: 46.

½ *khar* of emmer). The debt to be collected totals 38 *khar* of emmer and 13 *khar 5 hekat* of barley. The letter reveals other interesting implications concerning the extent to which grain should be measured and how different commodities could be equated via the media of money of account.

First, Hekanakhte specifies a particular measure that had to be used when collecting his debt "I have got them to bring the corn measure by which it is to be measured; it is decked with black hide". In the absence of coinage or weight, a volume measure had to be specified and used both when the debt is issued and when it is settled in order to observe *Maat* as justice and to underscore reciprocity between debtor and creditor. Second,

Table 13.7 The Hekanakhte Papers (Account VI)*

(1)	What is in Hutha'a–northern:		
(2)	With Sebeknedjem's son Nenrenef	15	(*khar*)
(3)	And his brother		
(4)	What is in Sununisobku	9	"
(5)	With Ipi the Younger		
(6)	What is in Sepat-mat		
(7)	With Nehri's son Ipi	20	"
(8)	What is in Set-sema(?)		
(9)	With Sisobk	4	"
(10)	Sau	3	"
(11)	The dog-keeper Hay	2	"
(12)	Being what is to be measured in the big measure		
(13)	Which is in Nebeseyet		
(14)	Total thereof:	52	*khar*
(15)	What is in the house of Khety-'ankhef	4.5 barley	(*khar*)
(16)	Siti's son Si-Renenutet	2	"
(17)	Seputy's son Nefer-Hathor	1	"
(18)	Sikhentkheti's (son) 'Ankhu	6	"
(19)	(Total):	13.5	"
(20)	Grand Total:	117	khar
Verso			
(vs.1)	Account of what is in (vs.2) Perha'a.		

* Source: James, T.G.H. (1962), *The Hekanakhte papers and Other Early Middle Kingdom Documents*, New York: 63.

although Hekanakhte prefers that his debt is settled in barley, he is prepared to accept payment in oil of equivalent value: one *hebnet* of oil equals two *khar* of barley and three *khar* of emmer. These conversion ratios maintain the harmony of equivalence observed between barley and emmer of 3:2; and hence quantities in oil, emmer and barley could be converted into additive values in accounting for transactions and debt payment.

More entries concerning debt are listed in Account VI (Table 13.7): debts owed to Hekanakhte that should be interpreted in conjunction with Letter III. James (1962: 47 and 64) and Baer (1963: 10) suggest that this account was sent by Merisu to Hekanakhte in response to the request made by the latter at the end of Letter I, but this is difficult to reconcile with the fact that the Hekanakhte Papers never reached their ultimate destination, unless they were exchanged at least once before their final journey. There is one disagreement in the reading of the entry on line 11 relating to the dog-keeper Hay because the inscription is unclear: Goedicke (1984: 89) reads 10 *khar* compared to James' (1962: 63) 2 *khar*. Attempts have been made to reconcile the figures in Letter III and Account VI, while bearing in mind that Account VI has more entries than those listed in Letter III. Apart from the additional entries in Account VI and the 3 *hekat* entry relating to Desher, entries in Account VI correspond to those in Letter III. James (1962: 64) surmises that the corn measure used for the entries on lines 1–11, which is not specified in the Account, must have been a double-*khar* measure. The typical corn measure had a capacity of 10 *khar*, but in the late Middle Kingdom a double measure of a capacity of 20 *khar* was used. Goedicke argues that the entry on line 11 of 10 *hekat* relating to the dog-keeper Hay is to be treated separately, leaving a total of 51 *hekat* which is written as a subtotal of 52 *hekat* in Hieratic.[6] If a double-*hekat* measure was used, then 52 x 2 = 104 + 13 ½ (total on line 19) = 117 ½ *hekat*, a figure very close to the grand total of 117 *hekat* recorded at the end of the Account. James (1962: 64) claims rather patronisingly that such a discrepancy of half a *khar* only is "a negligible error for an Egyptian scribe"; an unfortunate charge given the remarkable accuracy shown in many other instances. Whenever faced with some figures that he could not reconcile, James had a tendency, as Baer (1963: 11, footnote 74) suggests, "to assume that the scribe could not calculate correctly" (see James: 23, 57, 114).

Baer (1963: 10–11) offers a simpler way of reconciling Letter III and Account VI by treating Account VI as a supplement to Letter III, in which case the grand total of 117 *hekat* is the straightforward sum shown here:

Entries in Letter III: 38 *khar* emmer + 13 ½ *khar* barley = 51 ½ *khar*
Entries in Account VI:
(lines 2–10): 15 +9 + 20 + 4 + 4 = 52 *khar*
+ (lines 15–18): 4 ½+ 2 + 1 + 6 = 13 ½ *khar* = 65 ½ *khar*

Total: 117 *khar*

What is intriguing about these efforts to reconcile the numbers is the obsession with getting the figures right, whilst paying much less attention to the economic or social significance of the entries. Taking the total debt owed to Hekanakhte as 117 *khar* and adjusting for the difference in the value of barley and emmer (a ratio of 3:2), the total debt using emmer as a common denominator equals 130 ½ *khar* (or 87 *khar* of barley): 90 *khar* of emmer and the equivalent of 40 ½ *khar* (27 *khar* of barley converted into emmer equivalent). Baer (ibid: 11) calculates that during Hekanakhte's time this amount would have been sufficient to rent only 17 2/5 *arouras* of the 20 desired, leaving a remainder of 2 3/5 *arouras* to be paid for by other means such as the cloth mentioned earlier. If the cloth was valued at 24 copper *debens* as Hekanakhte had hoped (see Letter II), Baer (ibid) calculates that this sum of money would have sufficed to buy 230 2/5 *hekat* of emmer in the Eighteenth Dynasty (the New Kingdom) which is equivalent to 9.6 *hekat* per copper *deben*. To reflect the higher prices during the Middle Kingdom, Baer scales the quantity down by 2/3 so that one copper *deben* would have only bought 6.4 *khar* of emmer. This means that 24 *deben* of copper would have bought 154 *hekat* of emmer, or paid for the rent of approximately 5 *arouras* of land.[7]

HEKANAKHTE'S DILEMMA: OWNING OR RENTING LAND?

The main difference between the economic activities of the estates of Hekanakhte and Sitnebsekhtu is the production of yarn on an apparently commercial scale in Sitnebsekhtu's estate (see Table 13.4). This section explores the options available to Hekanakhte concerning owning or renting land for cultivation, with similar implications applying to the estate of Sitnebsekhtu. The entry relating to the amount of land owned by Hekanakhte has been damaged, so only rented land can be calculated. Based on the different translations of the Heknakhte Papers referred to earlier, the amount of land (measured in *arouras*) that Hekanakhte could have rented (the calculations are not shown here) varies from 33 ½ (James), through to 54 (Goedicke; Wente) to 84 (Baer). Baer's calculation seems too high and that of James too conservative. In Baer's (1963) calculations members of Hekanakhte's household are treated as slave labour; an assumption that runs counter to Hekanakhte's care for his family and his preference to provision them with barley rather than the less desirable emmer.

To assess renting versus buying cultivated land, the following calculation is based on the figures below per *aroura* (see James, 1962; Baer, 1963):

Purchase price:	20	*khar*
Crop	15	*khar*
Rent cost:	5	*khar*
Seed for cultivation:	1½	*khar*

Taxes (only on owned land And calculated by Baer to be about 1/10 of the crop)	1 ½	*khar*
Cost of labour	4	*khar*

Calculations of net gain per *aroura*:

Owned with own labour: 15—(1 ½ seed + 1 ½ tax) = 12 *khar*
Owned with hired labour: 15—(1 ½ seed + 1 ½ tax + 4 labour) = 8 *khar*
Rented with own labour: 15—(1 ½ seed + 5 rent) = 8 ½ *khar*
Rented with hired labour: 15—(1 ½ seed + 5 rent + 4 labour) = 4 ½ *khar*
Letting own land: 5—1 ½ tax = 3 ½ *khar*

Absent from these calculations are any allowances for other costs which could arise because either the cultivated land was too far away (transportation costs) or a large number of labourers had to be employed (supervisory and administrative costs). If the land was located in a close geographical proximity to the farmer renting it, and assuming that it was cultivated by a small number of men, these calculations would suggest that the most gainful alternative was to own land and work on it. The second best option would be to rent land and work on it. Given a price of 20 *khar* for one *aroura*, and a net difference in crop in favour of owning compared to renting (3 ½ *khar*), it would take only five years and seven months for that difference to pay for the price of the land. Assuming that Hekanakhte had a calculating mentality with emphasis on achieving maximum gain (which may not be warranted; see discussion in the following section), the question of buying and cultivating land or renting it for cultivation would have depended upon the amount of capital available.

Assuming that a farmer has only 20 *khar*, he could either buy and cultivate one *aroura* to earn 12 *khar* per annum, or rent 4 *arouras* and earn 34 (8 ½ x 4) *khar* per annum. On this basis Baer (1963: 15) argues that "[r]enting thus was far more profitable than buying as long as the total area was one that could be handled largely by the family". But this calculation is incomplete because it does not take into account the value of the land owned which would be fully paid for in just over 5 ½ years. This higher cultivation yield compared to rented land helps explain Hekanakhte's preference for cultivating his land instead of letting it (Letter I, vs. 9–11). But why did Hekanakhte also want to rent so much land, say 54 *arouras* taking the readings of Goedicke and Wente as an example? On the basis of the calculation of average return of rented land worked by own labour, 54 *arouras* would produce 459 (54 x 8 ½) *khar*, a substantial amount.

Perhaps it would be more useful to interpret these figures in the light of the needs of Hekanakhte's household. Letter II provides sufficient detail to calculate the provisions needed by Hekanakhte's family in situations of crisis, such as the high Nile inundation reported in that Letter. The aggregate total of monthly provisions for the household, including Hekanakhte, comes to 7.75 *khar* measures of barley. In a bad year, a minimum of 93 *khar* measures of barley were needed, and in a normal year, twice as much (186 *khar* measures) would have been expected. Hekanakhte's farming activities were fairly substantial and his produce far exceeded his family's immediate needs. He had sufficient reserves to pay for land rental in advance (using the cloth, oil, and grain; see Letter I), was owed substantial amounts of debt (Letter III, Account V, Account VI) and owned other goods such as bulls, copper, oil, and woven cloth. Hekanakhte was also the *ka*-servant (priest) for the dead vizier Ipi, a position of some prestige. Thus, James (1962: 8) states "It is quite evident, therefore, that Hekanakhte was a farmer and landowner of some standing in his own district."

Given Hekanakhte's substantial wealth, why did he not buy more land instead of renting? Using today's calculating mentality, this appears perplexing given that the price of land was fairly low in the Middle Kingdom (see Baer, 1962). One possibility that Baer (1963: 12) raises is that the rate of interest on debt at the time was higher than the return to be obtained from investing in land. However, he quickly abandons this possibility on the grounds that return from interest (with the associated risk of default) would have been only slightly greater than return from cultivating own land.

Another possible explanation is the unavailability of land to buy. This could be due to imposed restrictions by the state, but evidence is lacking to support this. Alternatively, land unavailability for purchase could be due to lack of supply; in the Old Kingdom land ownership was concentrated in the hands of few families (Baer, 1962). However, evidence suggests the break-up of some of these large holdings into smaller holdings during the First Intermediate Period and the early Middle Kingdom; hence Hekanakhte should have been able to buy land. Baer (1963: 14) suggests that "Hekanakhte's reasons are likely to have been economic" on the grounds that "[r]enting was far more profitable than buying" (ibid: 15). He (ibid: 15) reiterates this point more fully: "[a]s far as acquisition of additional land was concerned, the circumstances of his [Hekanakhte] time favored land ownership only on the part of those who did not intend to farm in person, largely officials, while renting was more advantageous to a farmer with moderate means". But given the availability of capital, if desire for gain was paramount it would have been more rewarding to buy than to rent land. So, if profitability was Hekanakhte's only concern, it is difficult to see why he did not buy land. It is just possible that economic-based concern with profitability of the degree implied by Baer was not the only, or indeed the main, driver of Hekanakhte's preference for renting rather than owning land.

Beyond Economic Reasoning?

These arguments have attributed some notion of economic 'rationality' to the decisions and actions taken by Hekanakhte. While some of Hekanakhte's decisions can be interpreted as consistent with economic reasoning, this does not necessarily mean that this was the key driver. The limitation of privileging an economic explanation is evident in some of Baer's remarks about Hekanakhte as a person. For example, in commenting on why Hekanakhte admonished Merisu for sending him old barley while keeping new barley for himself (Letter I, vs. 1–2) Baer states that "If Merisu's motive had merely been to economize, Hekanakhte would not have objected—but only for economizing on his father's food but not his own" (ibid: 17). But this is no more than an assertion. Similarly, Baer (ibid: 17) curiously understands the decision by Hekanakhte to reduce Nakhte's rations (Letter I, line 17) as one of profiteering at the expense of his own household: "Instructions tacitly to cut the wages of Heti's son Nakht[e] suggest that profit was more important than honesty in that household". Baer (ibid: 17) further claims:

> "And however one would like to suppose that Hekanakht[e] used some of his resources to succour the poor and starving among his neighbors, charity is not likely to have been a significant element in the personality of a man who was capable of putting his family on short rations for profit. Hekanakht[e] was a miser, and possibly we need not look beyond the thought of all those sacks of grain and bales of linen waiting to be admired to explain his economic practices."

All these charges are made because Baer can only see selfish actions by Hekanakhte. Yet, later on Baer (ibid: 17) considers one possibility that could move the argument in a radically new direction: that of Hekanakhte preparing for his death:

> "It is not unreasonable to suggest that the Egyptian of moderate means followed Hekanakhte's example of keeping his funds liquid rather than investing them in land, and that mortuary expenditures will have played as dominant a role in the private economy of Egypt as they did at some periods in the public."

This seems to be a more compelling explanation of Hekanakhte's actions, but unfortunately Baer does not develop this thesis, presumably because he has already made up his mind about Hekanakhte's prime profit motives and misery personality. Given the importance of preparing for the afterlife in ancient Egypt, it is not unreasonable to assume that one of the main reasons for Hekanahkhte's wealth accumulation was to prepare for the afterlife. First, as a ka servant of an important vizier, Hekanakhte was directly involved in religious duties concerning the afterlife. Second, as a ka priest and a reasonably wealthy person, Hekanakhte may have wanted his preparation for the afterlife to be consistent with his standing. Preparing for a good burial was one of two aspirations an ancient Egyptian held; the other was having a house. In the Instructions of Prince Hardjedef to his son Au-ib-re he says (Lichtheim, 1975: 58):

> "When you prosper, found your household,
> Take a hearty wife, a son will be born to you.
> It is for the son you build a house,
> When you make a place for yourself.
> Make good your dwelling in the graveyard,
> Make worthy your station in the West."

Moreover, there are clear accounts of non-royal burials in Coffin Texts of the Middle Kingdom, a practice not known in the Old Kingdom. This change has been attributed to "the private person's desire to claim identity with Osiris (god of the Underworld) after death, rather than an attempt to usurp the privileges of the living Kings." (Bourriau, 1991: 4). The trend of burial customs for more common people continued so that by the late XII–XIII Dynasties, Bourriau (ibid: 15) suggests 'Opportunities for the burial and/or commemoration in a sanctified place close to a royal mortuary temple, or at Abydos at the "Terrace of the Great God", were open to more people than ever before.'

There are no primary Middle Kingdom sources from which the cost of burial and tomb maintenance can be calculated. However, there are sufficient inscriptions from the New Kingdom to offer a glimpse of how extremely costly these items were. The calculations here are based on Janssen (1975a: 209–248). Burials involved the preparation of four types of coffin: a sarcophagus (*db't*); an outermost anthropoid coffin (*mn-'nh*); an anthropoid coffin (*wt*); and an innermost coffin (*swht*). The aggregate cost of all four coffins ranged between 80 and 376 copper *deben*. The cost of an inscribed copy of the Book of the Dead in a tomb was between 60 and 100 copper *deben*. Additional tomb equipment (jars, shrines, beds, statues, etc.) cost between 40 and 68 copper *deben* depending on quality. In total, the cost of all these items ranged between 180 and 544 copper *deben*. By way of example, if Hekanakhte planned to spend a modest 250 copper *deben* on all these items, this sum can be converted into the equivalent of barley measured in *khar*. Using an exchange rate of one *khar* equals 2 *deben* of copper (Černý, 1954; Janssen, 1975a: 122–125), the 250 copper *deben* would have amounted to approximately 125 *khar* of barley. Expensive as it may seem, this is only a small fraction of the total cost of a modest burial and tomb maintenance because it excludes other significant costs. First, building and decorating a tomb (typically more elaborately and durably built than a residential house; Baer, 1963: 17). Second, mummifying the body, which normally took up to forty days. Third, paying a *ka* priest for the service of attending to religious ceremonies for many years after Hekanakhte's death. Even using the most optimistic calculations of Hekanakhte's wealth at the time the Hekanakhte Papers were written, he still would have needed to accumulate more capital to prepare adequately for death.

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In commenting on the Hekanakhte Papers, James (1962: 11) suggests:

> "It may be possible to reconstruct the organization of a small estate in upper Egypt in the early Middle Kingdom along the following lines. At the centre was the main household with lands attached, worked by the owner of the estate helped by various persons. These persons, attached to the main household or 'home-farm' for purposes of living and general organization, might in addition be granted small plots of land which they could work on their account, no doubt paying something in the way of rent to the proprietor of the estate. The work of such people would therefore be partly private and partly communal and in the absence of the proprietor it would be a simple matter to transfer the responsibility for running the whole estate on to their shoulders."

That such a fascinating picture can be assembled from ancient records is a testimony to the power of inscriptions drawn upon in this chapter in order to piece together a tapestry of the human life in the household and on a farming estate. Yet, there is no reference in this quote to the power of accounting in ordering and rendering this household economy and farming activities possible. The analysis attempted in this chapter suggests that accounting inscriptions ordered the economic and social domains of the Hekanakhte estate.

Accounting calculations made it possible for the owner, Hekanakhte, to quantify the levels of his wealth, the annual outcome of land cultivated in his name, either owned or rented, and collected and outstanding debt. He could plan to extend his agricultural activities, by specifying how much additional land can be rented for cultivation at what price, and how this would be paid for. He could also specify targets of expected output from his cultivated land. Knowledge of his wealth, his annual produce, and the inundation levels allowed Hekanakhte to fix rations for his dependants as he saw fit. Even within the same economic conditions, having access to ways of quantification allowed Hekanakhte to differentiate between the rations of different members of his household, so that he can be 'generous' to a measure when allocating provisions to his mother or his favourite sons compared to other members, thereby establishing a social order invested in calculation.

Similarly, the allocation of small plots of land to the persons attached to Hekanakhte's 'home-farm' were underpinned by calculations that took account of the capacity of each individual for cultivation, the extent of land fertility, the rent that had to be levied in return for this privilege, and the timing of rent delivery. Moreover, drawing the boundary between the amount of work to be performed by each of these persons as part of the communal domain compared to the private domain was underpinned by awareness not only of the work capacity of every individual (which may have been standardized across able men) but also of the 'appropriate' balance that had to be observed between the private and communal domains. Finally, accounting calculations across time and space made it possible for Hekanakhte to monitor the affairs of his estate and his household from a geographic distance. Responsibilities were assigned to agents entrusted to act on his behalf during his absence, and the discharging of responsibilities was recorded in the accounts for monitoring purposes.

Accounting calculations in the Hekanakhte papers entailed different measurement units used in different contexts. Reasonably homogeneous items were counted; this counting had implicit values as equivalence *within* a given type of items could be observed. By standardizing an item for which counting was deemed to be an appropriate means of equivalence, the internal coherence of the measurement procedure was preserved. However, this internal coherence of equivalence would be disrupted if there was scope for significant variations within the same type of object to occur. In such cases, other restrictions are needed if equivalence is to be observed. While evidence from the Hekanakhte Papers is lacking on how such potential variations may have been dealt with, some inferences could be made. For example, flax was measured using bundles as a denominator; here it is possible that some weight limit was stipulated for the standard bundle. Equally, when numbers of loaves of bread were used to quantify targets or achievements, agreed measures of weight and quality may have been derived, as evidenced from the bakery accounts (Chapter 12). Counting was suitable in situations of constructing an inventory list of farm assets or produce, and perhaps within the household. Its main limitation, however, is that it could not translate across different types of commodity, for example, bulls and bundles of flax, without the intervention of another measure of equivalence that could act as a common denominator through which different objects could command more 'precise' valuations, as we will encounter in exchange situations in Chapter 14. Had Hekanakhte required the sale of some of his bulls, bread, or flax, some other denominator such as copper *deben* would have been used, just as was the case with the cloth that was to be used to pay for land rental (Letters I and II).

The second group of denominators used in the Hekanakhte Papers were capacity and *deben* measures. Capacity measures were used by Hekanakhte for grain, whether emmer or barley, quantified in *khar* and *hekat* in order to (i) fix rations for members of his household (Letter II; Account V); (ii) quantify debts owed to him by others (Letter III; Account V); (iii) calculate the cost of renting one *aroura* of land (Letter I); and (iv) determine target output of grain per *aroura* for his agents. Within the same capacity measure, value equivalence could be determined for different commodities; two *khar* of barley equalling three *khar* of emmer. Like all types of money, for capacity measures to have relevance beyond individuals involved in an exchange, they had to be underpinned by wide acceptance in society (Simmel, 1978; Bloch and Parry, 1989).

Even though these capacity measures applied to various commodities, it was recognized that variations in value could occur if alternative capacity measures were used, because of difference between *theoretical* and *physical* measures. The *theoretical* measure was fixed in the Middle Kingdom. In practice, however, it appears that the *physical* measure could vary, even if marginally, either because of minor unintended inaccuracies when making them or because it was advantageous to have two different physical measures of the same theoretical capacity. This latter possibility would allow one person to use the larger physical measure when collecting grain, and the smaller measure when paying with grain, but this assumes asymmetric knowledge of the differences in measures on the part of others involved in this exchange. In the absence of a physical capacity measure of the *khar* or *hekat* that was fixed and accepted throughout Egypt, Hekanakhte insisted that his own capacity measure was to be used when collecting the debt owed to him (Letter III), possibly because this was the same measure he used when he issued the grain to his debtors, or because he saw some advantage in using it.

The use of copper *deben* occurs only once in Letter II, when Hekanakhte assigns a value to the cloth that was to be used as payment towards land rental. In the *deben* and *khar* there are two different types of money of account linked together through an internal system of equivalence which permits their inter-translatability as we have witnessed in earlier chapters. Hence, a commodity initially valued in *khar* could be translated into an equivalent value stated in *deben*, and vice-versa, using the conversion ratio of one *khar* of barley equals two copper *deben*. This inter-translatability introduced greater flexibility in exchange relations. One example is the use of the cloth, once an agreed value in copper *deben* was placed on it, for the rent of land (Letters I and II). Another example is Hekanakhte's willingness to accept payment of debt owed to him in *hebnet* of oil, where he fixes its value as one *hebnet* equivalent to two *khar* of barley and three *khar* of emmer (Letter III). The fact that Hekanakhte here fixes these money exchange values may suggest that he set a price favourable to him, given his stated preference to be paid in barley, but this is beside the point. The important point to note is that this ability to translate across different monies of account broadens the scope of exchange considerably by permitting the use of different monies depending upon availability or preference.

Even when dealing with *concrete* commodities, such as emmer or barley, the valuation imposed upon them through accounting endows them with an *abstract, theoretical* value that makes it possible to order them in terms of the values assigned to them and to render them amenable to greater human intervention. Parts of a commodity could now be exchanged for parts of other commodities with equivalent value that is more precisely denominated than a more *ad hoc* social exchange that does not compare like with like. Also, payments for loaned commodities could be accepted in other commodities (or monies of account) provided that the exchange price is agreed by the creditor and the debtor, and so on. The scope for further possibilities becomes limited only by human imagination.

It is in situations where activities are less observable that the intervention of accounting has been given considerable stress in the extant literature. For Hekanakhte as the absent landlord at some considerable distance from his estate, accounting inscriptions offered him an indispensable means through which he can manage his estate from such a distance. Just as in the case with the accounts dealing with tax, baking, mining, transportation, temples and state projects, the Hekanakhte Papers can be thought of as early examples of the use of accounting to construct a form of human accountability via which others are held to account, in this case in the private domain. Each account was a time-space ordering device that specified precise dates, locations of individuals and activities to be accounted for, and names and responsibilities of individuals who were the locus of accountability. Such detailed listing of places, dates, tasks and individuals, coupled with instructions and targets specified in quantitative terms meant that stricter measures of accountability could be established and acted upon compared to situations where the temporal and spatial specifications are absent. Like all other accounts discussed in this book, the Hekanakhte inscriptions are conscious archives (Foucault, 1968) that discursively constituted subjects and objects in the domain of the Household and private farming activities. Such a discursive archive is more than a set of dry and dispassionate business and accounting inscriptions; rather it acts as a construction of cultural memory (Assmann, 2006) that bonds groups of people and societies together.

What is also crucially important is the performativity of the intervention of accounting technologies in producing the order they inscribe. When used to fix rations for members of the household, accounting does not only construct the fortunes of these individuals, in terms of how little or how much access they have to resources. It also establishes a particular social pecking order. Thus, the qualitative respect in which Hekanakhte holds his mother is translated into a precise differential or social rank reflected in the provisions allocated to her (Letter II), and hence the emotional words with which he greets her at the beginning of the letter are converted into a more measurable quantity of rations allocated to her. As this differential treatment becomes regularly inscribed into the accounts of the household, they become signifiers of social standing within the family with individual members of the family as the signifieds, each occupying a specific space in the social hierarchy. Thus, individual members of the household become inscribed at specific locations into social space as accounting technologies produce the very subjects they inscribe. These inscriptions, as we have noted elsewhere in this book, carry with them a double message; one that privileges those inscribed higher up onto the social ladder, and another that inflicts symbolic violence upon those less favourably treated.

14 Ordering Lives

The Roles of Accounting and Money in Organizing Communities

This chapter explores how accounting technologies, including money of account, ordered private economic exchange and constructed reciprocity in the village of Deir El-Medina. The chapter is also concerned with examining the shift from non-coinage through coinage to post-coinage money and comments on their roles in ordering society. The key argument offered here is that accounting inscriptions and the writing of money of account ordered a significant range of relations within the community of Deir El-Medina, constructed equivalence of exchanged objects and simultaneously constituted an equivalence of the exchange parties, irrespective of differences in their social standing. Further, while pre-coinage money makes possible management at a distance, the emergence of coinage money goes beyond this in making possible the separation of wealth from individuals, thereby producing new forms of social and economic order.

As suggested in Chapter 2, views on ancient economies range from those that treat them as 'economies of kind', based on '*oikos*' (household) where commerce was an occasional and secondary phenomenon but still a precursor to the development of modern market economies (Rodbertus, 1865), to those who understand them as primitive, without a link to market economies (Bücher, 1912). Pearson (1957: 7) has criticized Bücher's insistence on the self-sufficiency of the *oikos* which forced him into denying the significance of trade and money in ancient society. Similarly, Meyer (1924: 88) has suggested that ancient economies were essentially modern, with highly developed transportation systems, intensive exchange of commodities, and a market mechanism of a complexity which at least parallels that of the latter medieval period. However, his privileging of the market mechanism as the organizing system for ancient economies is problematic, a tendency shared by other writers who have been "unable to conceive of an elaborate economy with trade, money, and market places being organized in any manner other than that of a market system" (Pearson, 1957: 10). Failure to see the possibility of social arrangements as an ordering principle of ancient economies has been plaguing this debate.

Weber (1976) has moved the debate forward by rejecting the view that ancient economies were either 'primitive' or 'modern', arguing that they exhibited special characteristics that promoted unique contexts for trade, money, and markets. Thus, for the ancient Greeks and Romans economic advantage was acquired by military might in war and by political means in peace. Weber's unique insights underscore the importance of societal conditions specific to a particular time and space in human history which impact the nature of economy, money, and markets. However, as indicated in Chapter 2, it was not until the work of Karl Polanyi that ancient economies began to be more thoroughly examined and articulated on their own terms, so to speak.

While emphasizing the inevitability of a market of some sort in all civilizations, Polanyi (1944, 1947, 1957, 1977) maintains that no ancient economy was a self-regulating market economy. For Polanyi, ancient economies were embedded in social relations so that economic behaviour was triggered more by social motivations (the maintenance and reproduction of status) than by the desire to satisfy material economic needs. In contrast to the traditional view of the economy as a formal system modelled on either the '*oikos*' or the market mechanism, Polanyi (1957: 248) defines the economy as "an instituted process of interaction between man and his environment, which results in a continuous supply of want satisfying material means" where 'process' implies movements of production, appropriation, and distribution and the 'instituted' dimension endows the economic process with unity, stability, function, and history (ability to reproduce itself). The economy is embedded in institutions, economic and noneconomic, and co-ordination of economies through the price-mechanism is a modern phenomenon (Polanyi, 1977: 125). Polanyi´s work has attracted many followers but has also received much criticism. As argued in Chapter 2, charges of determinism, problematic conceptualization of reciprocity and redistribution, and the marginalization of the unique characteristics of humans as producers have been levelled against his work.

Polanyi's disciples have articulated further the possibility of some notion of market in the ancient world:

> 'In primitive economies with peripheral markets only, small quantities of produce are sold in face-to-face transactions at market sites; but most people do not depend for livelihood on such sales, and the market-place prices do not affect the production decisions of subsistence producers.' (Dalton, 1967: 156)

The difference between 'market mechanism' and 'market place' is fundamental. Market mechanism is a recent human experience, dating at the earliest to the late nineteenth century, and is self-regulating towards reaching equilibrium through the interaction of demand and supply. A market in this sense may or may not have a physical place; all it needs is for information to circulate in a way that allows the interaction of demand and supply for a given good. In contrast, a 'market place' is a concrete physical location where buyers and sellers meet to exchange goods. A market place need neither have a market mechanism nor an explicit price (Neale, 1957). Private exchange took place in ancient Egypt where buyers and sellers exchanged objects in a market place, or indeed in approximate locations, at an agreed price determined via the use of money of account. The village of Deir El-Medina, which is the focus of this chapter, had a market place where commodities were exchanged, at a price agreed by the exchange parties.

The community of Deir El-Medina, which we have already encountered in Chapter 11 in discussing the strikes of the necropolis workmen, was quite unusual in many respects, and it is precisely because of this that it holds significance for studying the connection between accounting and order (see Černỷ, 1973; Bierbrier, 1989; Janssen, 1997; McDowell, 2001; Donker Van Heel and Haring, 2003; Romer, 2003). In contrast to other Egyptian communities that were located on the eastern side of the Nile south of Memphis (present day Cairo) and across the Nile Delta, Deir El-Medina was located in the desert on the western side of the Nile. The village housed the necropolis workmen, and their families, who worked on the construction, decoration, and inscriptions relating to royal tombs for three centuries.

Deir El-Medina, or the 'Place of Truth/Order' according to its ancient name, was founded in the early New Kingdom era in the desert valley close to the royal tombs (Spalinger, 2005: xvi–xvii), and it reached a maximum size of about 80 houses, each providing accommodation for 14–15 people. The houses were built either side of a high street fully contained inside high walls with only one doorway on the northern side. At its largest, the total area of the village measured 132 metres in length and 50 metres in width. Because the

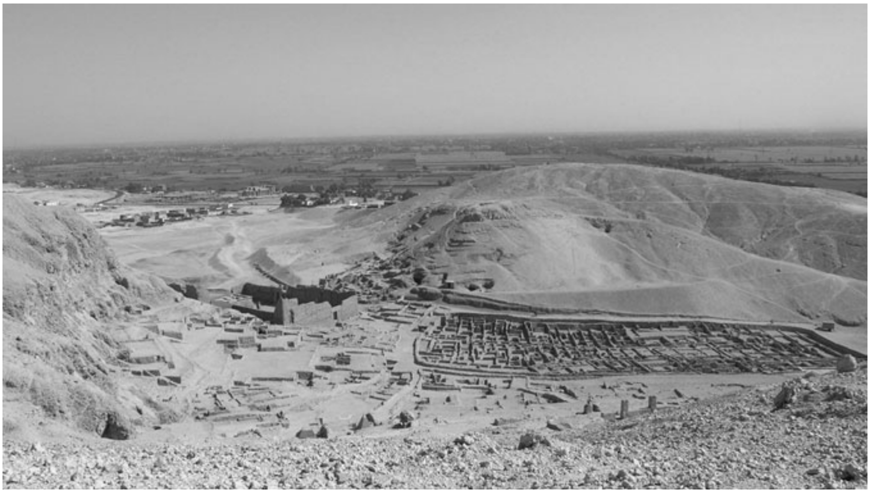

Figure 14.1 The necropolis village of Deir El-Medina.
**Source:* Photo by kind courtesy of R.J. Demaree

village was cut off the rest of populated land by both desert and the Nile, it relied on supplies of water and foodstuffs from outside much of it came from ferried by boats from the east side of the Nile although some supplies came from the west bank of the Nile outside the village walls (see Figure 14.1).

The village community was closely linked through blood relations, marriage 'the village households . . . held some twenty-five interrelated families' (Romer, 2003: 23), joint work, and social bonds. Because of the concentration of highly skilled artisans in the village, compared to the rest of ancient Egypt, a larger percentage of the workmen were literate, which explains the large amount of inscriptions found covering all walks of life in the village (Janssen, 1992; Lesko, 1994: 134–136):

> 'By transforming the villagers' spoken words into formal written documents the scribes imbued their simple declarations with a gravity beyond speech, a metamorphosis that must have received tangible corroboration from the very bulk of the stone flakes and the sherds of pottery—both called ostraca—on which much of the village business was recorded.' (Romer, 2003: 26)

Deir El-Medina was not only different from other populated parts of ancient Egypt in terms of location and literacy, but also in relation to the voluminous inscriptions containing accounting and business entries. One may ask: why would such a close-knit community, with a significant percentage of blood or marriage relations, whose members shared a closed space in which they worked, socialized, and lived for their entire lives, engaged in so much accounting? If anything, one may legitimately surmise: would this not be the setting where inscriptions of business and accounting entries should have been either absent or kept at minimum? Yet what we observe is exactly the opposite, a plethora of accounting and business inscriptions of the most detailed nature. This apparent puzzle is one motivation for writing this chapter. Although there are a number of plausible explanations for this extensive recording of exchange transactions, , it is argued here that the most significant one is the ability of accounting and money of account to order community lives. Another motivation for writing this Chapter is to explore the impact of different forms of money on ordering human relations. It is suggested that even in its non-coinage form, money of account played a fundamental role in ordering private exchange relations, and that with the invention of coinage and pos-coinage money this role was expanded further.

RECIPROCITY AND EXCHANGE

What does reciprocity mean? Building on the work of Malinowski (1922) and Firth (1957), Sahlins (1972) focuses upon three points on the reciprocity continuum: the extremes (generalized versus negative reciprocity) and the midpoint (balanced reciprocity); see Chapter 2. Generalized reciprocity refers to altruistic transactions; assistance is given in the form of 'gift', 'help', or 'generosity' and would only be returned if necessary; hence the obligation to reciprocate is vague 'weak reciprocity'. The material dimension of exchange is suppressed to give way to the social dimension. Counter obligation may exist, but it is not stipulated by time, quantity, or quality (ibid: 194). Negative reciprocity is the least sociable pattern on the continuum. It is an attempt to get something for nothing and hence the economic dimension is far more dominant than in other forms of exchange. Opposing economic interests set apart the transacting sides. At one level negative reciprocity can be observed in haggling guided by 'what the traffic will bear' which 'ranges through various degrees of cunning, guile, stealth and violence to the finesse of a well-conducted horse raid' (ibid: 195).

Balanced reciprocity (or 'pure' reciprocity, Liverani, 1990: 22) entails a two-way exchange of equivalent worth within a narrowly stipulated period. It does not require, however, as Liverani contends (ibid: 22) parity in rank between exchange parties; all it requires is perceived *parity in valuation*. Here, material equivalence is paramount for which seemingly precise valuation and reckoning is needed. Money of account constructs balanced reciprocity by denominating the values of exchanged objects as equivalent. Unlike under generalized reciprocity, failure to be seen to reciprocate with the equivalent values under balanced reciprocity disrupts not only future economic relationships but also social interaction.

This point bears further clarification with reference to a Middle Kingdom literary text from ancient Egypt. In "The Tale of the Eloquent Peasant" (Simpson, 1973), a peasant called Khunanup travels from his home in Wadi Natrun to Herakleopolis in Middle Egypt to buy provisions for his family, having loaded his asses with supplies of bread and beer as well as the commodities he desired to exchange for provisions. As he travelled through the district of Per-Fefi he passed a man called Nemtynakhte standing by the riverbank. Nemtynakhte liked Khunanup's asses and planned a trick to take them. The riverside path located at the front of Nemtynakhte's property, on which Khunanup had to lead his asses, was narrow, being 'the width of a loin cloth' (ibid: 32), so Nemtynakhte spread a cloth over the path so that 'its fringe rested on the water and its him on the barley' (ibid: 32). As Khunanup took his asses across the public path Nemtynakhte warned him that he was going to tread on his cloth. To avoid doing this, Khunanup went higher but closer to the barley whence one of his asses 'filled his mouth with a wisp of barley' (ibid: 33). Nemtynakhte immediately stated that he must take possession of the ass because it had eaten his barley. But then Khunanup countered: 'My way is good, and one (wisp only) has been damaged. It is for its (the wisp's) price that I will buy back my ass if you take possession of it for a (mere) filling of its mouth with a wisp of barley' (ibid: 33).

This literary text underscores two paradigms of exchange and reciprocity (see Ezzamel and Hoskin, 2002: 351). Nemtynakhte's demands encapsulate an *object reciprocity paradigm* whereby damage to an object (a wisp of barley) is paid for via the acquisition of other objects (Khunanup's donkey). Whatever valuation is entailed is only implicit, for while we may surmise that Nemtynakhte values his wisp of barley to be of equivalent value to Khunanup's donkey, no explicit valuation has been invoked and certainly no reference has been made to what may be called the 'going rate' at which objects are exchanged. Khunanup, in contrast, employs a *value paradigm*, where if the wisp of barley is valued to be equivalent to his donkey then that becomes the 'going rate' at which he should acquire back his donkey by paying Nemtynakhte a wisp of barley. It is Khunanup's value paradigm that is encountered in the exchanges discussed later in this chapter. Khunanup's value paradigm anticipates Kant's famous dictum: 'Whatever has reference to general human inclinations and needs has a *market price*' (cited in Derrida, 2002: 325, original emphasis).

ACCOUNTING AND EXCHANGE IN DEIR EL-MEDINA

In the public sphere where subjects performed tasks for the state, accounting played a key part in ordering the workmen's community of Deir El-Medina just as it did for the rest of ancient Egyptian society. The necropolis workers were subjected to work organization and discipline similar to that discussed in earlier chapters (for example, Chapter 11). Tasks were allocated to gangs under the leadership of a supervisor, work targets were set, work-related tools and perishable items such as lamp wicks were accounted for, work progress was reported, attendance lists were kept, and rations were allocated according to title or rank (see Mandeville, 2010). Thus, inscriptions from Deir El-Medina concerning the public domain add little to what we already know from other periods, and thus will not be considered further here.

What is more intriguing is trying to unravel the role of accounting in ordering community life in the private domain, and the inscriptions from Deir El-Medina offer uniquely rich insights in this respect which might add to the analysis of Chapter 13 concerning the household and private estates. Here, the presentation of village accounting inscriptions is organized into the following categories: sale of items in return for others or on credit; costing of decorated items or work done; listing/valuation of property; and disputes over payment.

Some of the Deir El-Medina transactions were performed from house to house, but most exchanges occurred in a specially designated place for transactions, a square in front of the gateway on the riverbank, hence the frequent reference in the inscriptions to the riverbank as the place to which exchanged commodities were taken (Janssen, 1975a). The family of 'money of account' we have by now become familiar with was used in the valuation of transactions. For convenience of reference these monies of account are repeated here. The *deben* (= 91 grams) was the money most frequently used, and it compared the value of a commodity with a given weight of copper, or sometimes silver, and very rarely gold. The *sniw* (= 7.6 grams) expressed prices by comparing the value of a commodity with an object of silver, and it has been associated with a seal-sign but the association is obscure. One sixth of the *sniw* is the *hin*, which seems to have been used as a measure of value only in the case of sesame oil. The *khar* (76.88 litres) measured the value of a commodity by comparing it to a quantity of grain, and one quarter of the *khar* is the *oipe*; grain was frequently used to value basketry items exchanged.

Sale of Items

In barter or semi-barter exchange where no coinage money is involved, each exchange party is both a seller and a buyer. Inscriptions of such exchange can lack evidence of direct valuation:

> 'What the Draftsman Neferhotep gave to Haremwia:
> 1 decorated stela of Nefertari; may she live,
> (while) he gave to me 1 wooden chest in payment for it
> Again, decorating for him: 2 coffins, for the river bank (i.e., the market), (while) he made 1 bed for me.'
> (O. Michael 13, Kitchen, 2003: 115)

In this inscription, a stela is exchanged for a chest and two coffins for a bed with no explicit valuation: Neferhotep is the artisan selling his services of a decorated stela and two coffins, and Haremwia is the one paying for the work done which comprises one wooden chest and one bed. Yet, given some notion of reciprocity, we may assume that some form of valuation underpinned these two exchanges. In a world where monies of account existed, such as that of Deir El-Medina, transacting parties would have had knowledge of the range of 'prices' of frequently traded items. It is likely that Haremwia knew the 'going' price in the village for decorating a stela which must have been deemed equal in value to a wooden chest and one bed equalling the decoration of two coffins, allowing for variations in material, size and quality.

The vast majority of exchange transactions, however, entailed direct valuation:

> 'Year 5, third month of the summer season, day 20. Given to Hay by the Chief policeman Nebsmen: 1 head of cattle, makes 120 *deben*. Given to him [i.e., to Nebsemen]: 2 pots of fat, makes 60 *deben*; 5 mss-shirts of smooth fabric, makes 25 *deben*; 1 dress of Upper Egyptian cloth, makes 20 *deben*; 1 hide, makes 15 *deben*.' (Černỷ, 1954: 907)

This format of exchange is the most frequent in the case of sales; an account that is temporally designated in year, month, and day, whereby the names of the two parties to the exchange are stated, and the items exchanged, each valued in a money of account, are listed. In this exchange, Hay is given a head of cattle valued at 120 *deben*, in exchange for a number of items whose aggregate value comes to exactly 120 *deben*, thereby signalling that economic reciprocity is observed and *Maat*, the ethical register signifying justice and order, is done by both parties. In such an exchange, accounting technology, entailing enumerating, counting and valuing objects, intervenes between Hay and Nebsmen to forge a relation of equality in exchange, irrespective of their social rank. This order is produced and given permanence by being inscribed.

At times, those present at the exchange, in addition to the scribe who wrote the details of the transaction, are named as witnesses:

> "Year 26 [of Ramesses III], 5 days over the year, Birth of Nepthys (=5). What was given to the workman Hay, by the guardian Penpamer, in payment for his pot of fat:
>
> Of bronze, 1 washbasin,—making 19 *deben*; 1 *i'rr*-vessel, making 12 *deben*, total 31 *deben*;—before the guardian Penmennufer, Anakhtu, Amenemone, and Usihat." (ODM 410, Kitchen, 2008: 402)

Thus, it seems that having the exchange inscribed was not sufficient, so the entry ends with a list of the names of four individuals who witnessed the transaction. Presumably, this came in handy in situations of dispute, should appeal to higher authority be needed. With a valuation scheme at hand, in the form of money of account, exchange parties would have worked hard to ensure that value reciprocity was observed in transactions, by adding on items until the two sets of objects exchanged were assessed to be of the same value:

> "What the workman Paneb paid the coppersmith Amenemwia for the price ("recompense") of the cauldron: of first quality: 1 tunic, making 1 seal;
> sesame oil, 3 *hin*, making ½ seal;
> actual barley, ½ sack,
> sandals of Pharaoh, LPH, ½ sack,
> making ½ seal.
> 1 bandalette (?) making ½ seal.
> a pair of men's sandals, making ½ seal.
> I gave 3 *hin* of sesame oil to another coppersmith, to, finish it (off).
> Total 3 ½ seals"
> (O. Nash 3, Kitchen, 2003: 161)

In this exchange, the cauldron made by Amenemwia was valued by him (a valuation implicitly accepted by Paneb) at 3 ½ seal = 3 ½ *sniw* (the seal sign is an alternative way of writing '*sniw*'). Paneb assembles a number of items that initially come to only 3 seal in value to pay for the cauldron. To complete the exchange and ensure value reciprocity, Paneb throws into the deal 3 more *hin* of sesame oil which we know from the earlier part of the inscription to be worth ½ seal (*sniw*), given to another coppersmith who presumably is a partner of Amenemwia.

Economic exchange could also be conducted on credit, and what is being exchanged in such a situation is an item of an agreed value in return for a promise of future payment. The critical issue with debt of course is the time interval that passes between the receipt of an object and paying for it which could be fairly short. For example, the necropolis scribe Nesamenope wrote to the chantress of Amun, Mutenope:

> "And you are to tell the laborer Ahautinefer, "Give me a *deben* of tin". As soon as he gives it to you, I will compensate Onery with a *deben* and five *kite* of tin for the job of the fifteen pieces of weaponry that I told him to make." (Wente, 1990: 176)

An exchange of weaponry for tin is the subject of this transaction, but here there are two issues to note. First, there is a time interval separating what is taken from Ahautinefer and what is given to Onery, even though this interval appears to be "As soon as he gives it to you, I will compensate", thus some notion of credit could be at work here even though only momentarily. Second, it is not clear if Ahautinefer is paying a debt or offering credit to Nesamenope.

Other transactions had a longer time interval separating receipt of items from payment:

> *recto*
> "List of everything that the workman Knum-mose gave to the chief policeman Neb-se[men son of] Ra'ia
> [. . .] *hin* fresh fat [. . .]
> 1 wooden coffin makes 20 *deben*
> via Neb-semen
> 3 tunics of smooth cloth makes 15 *deben*
> 2 copper *deben*
> via Pen-pa-mer
> 3 sandal-thongs
> via Pen-pa-mer:
> 2 *hin* fresh fat
> via him:
> 1 bed makes 15 *deben*
> with the policeman [Amen]-kha:
> 2 *hin* sesame oil

> 1 sheet of smooth cloth makes 8 *deben*
> via the water carrier Amen-kha:
> 2 pieces *sesed* plant makes 4 *deben*
> via Neb-semen:
> 2 pair sandals
> Total: 66 copper *deben*
> *verso*
> Amount of money of Knum-mose that is with Neb-semen: 66 copper (*deben*)
> What came from him: 43 copper *deben*
> Its remainder: 2[3]"
> (HO 80 = Louvre 698, vs. 12–22, McDowell, 2001: 77)

In this account, items exchanged between the two parties are not of equivalent values, leaving a remainder of 23 *deben* owed to Knum-mose by Nebsmen. This credit is not simply a mere difference that we as readers of the account arrive at through an exercise of calculating the net difference between debits and credits; rather, it is stated clearly at the end of the account. No mention is made of how long this credit is granted for, nor of the form of future payment. What is also interesting is that the items exchanged did not always pass from Knum-mose to Nebsmen, as middlemen were also part of the exchange presumably passing on items on behalf of Knum-mose to Nebsmen. This is not surprising given how closely knit the community of the Deir El-Medina village was and the possibility that these individuals owed money[1] (or were helping Knum-mose out) in order for the exchange to be completed (see also McDowell, ibid: 76).

An alternative form of debt is inscribed as amounts owing to someone by someone else, so here semi-barter exchange is replaced by a straight borrowing-lending arrangement. This is a form of exchange where an amount of goods with an agreed value is given by one party to another, in exchange of a promise by the other party to pay back similar goods or their value equivalence at some point in the future:

> "Things of Amen-em-one that are with the chief policeman Amen-em-ope:
> 5 copper *deben*
> 2 shawls of smooth cloth, makes 15 (*deben*)
> Things of Amen-em-one that are with the scribe of the Granary of Pharaoh Amen-khau:
> 1 *men*-jar of fresh fat
> Things of Amen-em-one that are with the chief policeman Amen-wah-su: [. . .]
> Things of Amen-em-one that are with the scribe Hori-[sheri]:
> 1 wooden bed, makes 15 (*deben*)
> What is with the scribe of the Necropolis Hori:

> 8 sacks of emmer
> 3 *hin* of sesame oil
> 3 *gabu*-baskets of *heqeq*-fruits
> 6 mats
> What is with Hel, daughter of Ta-woseret:
> 6 *hin* of fat
> 8 bundles of vegetables
> 2 goats
> 1 mat"
> (O. Petrie 51, McDowell, 2001: 78)

In this inscription, Amenemone seems to be a rather well-off member of the community with several individuals, including some with important titles, in his debt. Monies of account as *deben*, *hin* (0.48 litres of fluids), and sack/*khar* were judiciously used each to value the objects for which they were deemed appropriate. For some reason, other items were not valued; in particular the *memet*-jar of fresh fat, the fruit, the vegetables, the goats, and the mat, and it is difficult without further evidence to explain this. Janssen (1994) raises the question as to why a number of people are listed in the inscription as having some of the objects that belong to Amenemone. He (ibid: 135) suggests that in the village an 'open credit system' may have been at work, where 'everyone was the debtor and creditor of several others'. He (ibid: 136) argues that what seems at work here is a generalized reciprocity exchange relationship (Sahlins, 1972), one in which short-term gain could be sacrificed in return of maintaining good relations within the community. In a system of open credit of the type encountered here, accounting valuation and inscriptions intervene to order relationships between all parties concerned, where rights and obligations are enumerated, valued and inscribed against the names of relevant individuals to ensure fairness and reciprocity.

Not every transaction was inscribed, nor did every transaction result in exchange of exactly equal values, but given the close proximity, blood and marriage relations, and strong social bonds within the community of Deir El-Medina this is perhaps not surprising. Because transacting parties knew each other, it was possible for small differences in the values of the items exchanged to be tolerated without feeling that reciprocity or *Maat* was violated. In such a close-knit community, there would have been expectations of repeated exchange encounters, where differences in the values of exchanged items would have been expected to cancel out over time. Yet, it is because accounting and its money of account could work out differences in exchange and allow for them to be viewed as 'marginal' that exchange relations could still be constructed without undermining *Maat*. This also explains why transactions of small values were not inscribed as risks borne by the transacting parties would have been fairly small (Janssen, 1975a: 512–513). With small value transactions, it made good sense to avoid employing a scribe at a fee to record them. Yet here again accounting and its money of account played a part in deciding which transactions should be inscribed and which should not; for the value of the transaction had to be assessed using the money of account before it could be judged whether or not the cost of not employing a scribe was worth bearing.

Recompense for Work Done

The workmen used part of their spare time in gainful work, by making things or employing their decorating or writing skills, in exchange for commodities of an equivalent value. These transactions were recorded by the scribes indicating the names of the relevant parties, the nature of the work done, and the amount of money owed to the artisan:

> "List of all the work that I did for the deputy Amen-nakhte:
> 2 chairs makes 30 (*deben*)
> 1 wooden bed makes 20 *deben*
> 1 coffin makes 25 *deben*
> The excess thereof, 48
> 1 wooden statue makes 15 *deben*
> *Keskes* basket makes 3 *deben*
> Total: 93 copper *deben*"
> (O Gard 310, McDowell, 2001: 80)

In this inscription, the workman (a joiner) made a number of items of furniture for Amen-nakhte with the price of each item indicated, reaching a total value of 93 copper *deben*. The entry relating to the excess of 48 *deben* is difficult to understand, unless Amen-nakhte had already paid 27 *deben* of the cost of the first three items. What the inscription does not indicate is whether the material (especially wood) was provided by the joiner as part of the price or whether the whole of the amount of 93 *deben* was paid as recompense for his work, with Amen-nakhte providing the wood. The important point to note, however, is that the type of work to be done was indicated clearly along with the price of each item, thereby both parties to the transaction would be clear as to their respective responsibilities. Other inscriptions provide even more details compared to the inscription:

> "What belongs to Hay son of Huy, in payment for the small bed of which the wood is mine:
> Emmer, *2 sacks*; *2* grain-baskets; *1* strainer.
> Total, money ("silver"): 1 *sn<n>iw*"
> (O. IFAO, Inv. 389, Kitchen, 2008: 458)

In this inscription, Hay made a small bed, but the wood was provided by the client, and the workmanship costs 1 *sniw* to be paid as emmer, grain, and a strainer. Although no precise measures of the bed are provided (it is simply stated as ‘the small bed’), we can expect that both the client and the joiner knew at least the approximate size the bed must measure up to. A similar inscription notes the amount outstanding for engraving a frying pan:

> “Year 31 (Ramesses III), 2nd Peret, 15: on this day, handing over the frying-pan worth 20 *deben* (weight) to Neferhor, by Bakenwerel; inscribing its worth (‘of’) 15 *deben*.
> He took an oath by the Lord, to pay Bakenwerel for the engraving.
> Before: the Chief Workman, Kha; the Scribe Amennakht; the Chief Workman Khons”
> (O. Gardiner, 68, Kitchen, 2008: 434)

Here Neferhor owns a frying pan, and its value is stated as worth 20 copper *deben*, presumably in order to protect his rights should it be damaged or lost while being with Bakenwerel. The engraving is stated to cost 15 copper *deben*, and Neferhor takes an oath before witnesses that he will pay Bakenwerel that money. Here we not only encounter the mere presence of witnesses to a transaction, as we have seen earlier, but a further commitment, in the form of taking an oath, from Neferhor to pay Bakenwerel for the engraving. Why an oath taken in the presence of witnesses was required and inscribed in the account is not stated, but we may assume that Bakenwerel may be understandably suspicious that Neferhor could be a difficult client in paying what is due to Bakenwerel, or indeed it may reflect Bakenwerel’s own careful manner in concluding business transactions. What is particularly interesting about this is that the accounting inscription was not deemed sufficient to assure Bakenwerel that he will receive his due payment, thus socio-religious commitments (taking an oath before witnesses) was called upon to give more credibility, and support, to accounting inscriptions.

Other tasks undertaken included decorations of garments, furniture, and coffins:

> “*Recto*. What was given to the draftsman Maani-nakhtuf as payment for the kilt’s being decorated:
> Vegetables, 6 bundles, making 1 *seniu*; 2 grain-basket, making ½ *seniu*;
> Wood for a coffin, making 1 *seniu*.
> What was given to him in payment for decorating the coffin:
> Of woven (work), a kilt, making 3 ½ *seniu*; 1 sack (*‘rq*), making 2 *oipe*/½ sack;
> 1 sleeping mat, making ½ *seniu*; 1 bowl (*dd*), making ½ *seniu*.
> *Verso*. What is with the Draftsman Rahotep, namely the work (of) the stonemason, (for) which he paid: 4 *seniu*. He said “I will decorate 1 coffin for you (in exchange) for them””.
> (ODM 49, Kitchen, 2000: 383–384)

In this inscription we encounter an example of the extension of the reach of accounting technologies into decorating work performed on various objects. What is intriguing, yet again, is the use of different monies of account to pay for work done on different objects: vegetables and grain for the kilt; a kilt, a bowl, grain, and a sleeping mat for the coffin. Rather than necessarily only point out, as stated in earlier parts of the book, that we here witness the use of special monies for special objects, it seems also that the client assembled whatever objects s/he had in order to pay for the work on each of the kilt and the coffin, that is payment by different commodities purely for convenience. Such an account, with a mix of different objects could be read as a chaotic, almost random assemblage of disparate items. This indeed may seem to be the case, but we must also note that such apparently chaotic and disparate items are brought into coherence and order via the inter-translation of their values into a single money of account, that of the *seniu*. The account can therefore be thought of as an archive that counterposes chaos and order.

As a final example of the reach of accounting technologies into various private domains, we may note that scribes were paid fees for doing private work. The numerous inscriptions detailing transactions discussed in this chapter are examples of this private work. A more specific example is provided here:

> "What was given to the Tomb-Scribe Hori in payment for [*x*]
> Fresh fat, 1 flagon, making 30 (*sc. deben*). A coffin,—making 25. Of bronze, 1 wash-basin, making 12. Of bronze, 1 frying-pan(?), making 22,
> From the Chief of Medjay-police, Montumose:
> Of wood, 1 box, making 10. Of wood, 1 bed, making 12. Of wood, 1 seat, with its back on its support, (along with) its footstool, making 15.
> Total, copper, 127 (*sic for 126*)"
> (O. Gardiner 44, Kitchen, 2008: 451)

Thus Hori undertakes a job with a fee of 126 copper *deben* (rather than the mistaken total of 127 *deben*); a significant amount of money likely to have been payment for private inscriptions he made. Items paid to the scribe Hori are itemized, counted and translated into an aggregate value using the copper *deben* money of account.

Listing/Valuing of Property

The Deir El-Medina community of workmen was better off than most of the ancient Egyptian population. The workmen earned sufficient income above what was required for their subsistence to accumulate some valuable items. Many of the workmen acquired the services of a scribe to detail, itemize, quantify, and value their property, but the reasons for doing so are not always made clear. One possibility is that items of property were valued and recorded when they were given to someone, maybe as a loan or for safe keeping:

> "I cause you to know of the other (things) which (I?) took <from?> the house of Ipuy:-
> 1 mat; 50 strips of veneer ("wood, split off"); 1 (pair), men's sandals; 1 *deben* of incense; 3 necklaces; 3 seals."
> (ODM 289, Kitchen, 2003: 295)

Here, one workman itemizes and quantifies and/or values (in *deben* and *seal/sniw/seniu*) each of the items he took from the house of Ipuy, so that they can be accounted for when they are due to be returned back to Ipuy at some future date. Presumably the aim of this inscription was to protect both the workman who took the items and Ipuy in case of future disagreement by either side. An accounting inscription of this type can therefore be seen as a means of engendering an ordered social relationship between the two parties. Why these items were taken by the workman with the intention of their future return is not made clear in the inscription. Owners of the property given to someone else, perhaps on loan or as a gift, have therefore tended to itemize, quantify and value each object as a means of either safeguarding their ownership of the property or to indicate the level of giving in case of gifts:

> "Property of the workman Nakhtmin, which he gave <to(?)> the citiziness [. . . . .]:
> 1 smooth (bed) sheet; of leather, 4 pairs of sandals; [(?) fat], 8 *hin*;
> *Typt*-fish, *oipe* 1 1/16; *mndjw*-basket(s) and lid(s), 1 (each);
> 4 mats; 1 piece of rope; 2 necklaces and 1 heart (amulet (?));
> 9 bundles of vegetables, making ½ sack / 2 *oipe*; [. . . .]gr, *nt*, 1, making ¾ sack / 3 *oipe*
> of barley; *knmw* (?); making ½ sack / 2 *oipe*; total, 1 ¾ sacks."
> (O. Cairo CGC 25,583, Kitchen, 2003: 237–238)

This inscription states clearly that the objects listed, valued in *hin*, *khar* (sack), and *oipe*, are the property of Nakhtmin that he has given to a woman, whose name is damaged. This inscription does not specify why these items were given by Nakhtmin to the citiziness, but presumably the two sides knew why, and the items could well be a gift to a close friend or a family relation of Nakhtmin. When items were given to someone who is not a family member, the assumption here is that the inscription is a statement of the items owed to that person made, or at least agreed, by the person who received them. In the following inscription, a workman called Khnummose states:

> "Now when Nebwenef passed (by) the Wall, he came to my storehouse, and he took:

> 1 knife, worth 3 *deben*; 1 tunic of smooth cloth, worth 5 *deben*.
> [M]y son spent 2 years carrying his water; and one wall collapsed ("came down") in his storehouse. I (re)built it. I gave 5 donkey (loads) of water for it, in(?) clay.
> I smoothed three places above his house, and also the stairway of his Tomb (+ chapel).
> His wife spent forty days with me, dwelling in my house. I seeing to her needs; I gave her:
> Emmer, 1 sack; assorted loaves, 10.
> He threw her out again; she spent 20 days in the house of Menna; I provided: 3 *opie* of emmer; 1 *int* garment/yarn(?); 1 (piece of) scented bark(?)"
> (O. Ashmolean Museum, 1945.39, Kitchen, 2008: 453).

This inscription is remarkable in terms of the level of detail and the types of objects or activities inscribed in it. The inscription values a knife and a tunic given to Nebwenef in *deben*, provisions given to his wife while in the house of Khnummose and also in the house of Menna in *khar* (sack) and *oipe* in the case of grain and number of loaves of bread, in addition to other itemizing objects such as garments and bark, and then there is the detailed description of the help offered to Nebwenef to provide him with water and rebuild his collapsed wall. There seems to be some close relationship between Nebwenef and Khnummose, otherwise it would be difficult to explain why the wife of the former spent forty days in the house of the latter and was also provided for by him. In a tightly knit community such as that of Deir El-Medina, it is possible that the purpose of this account was to serve as a reminder of future expectations of reciprocity when Khnummose is in need of help; an expectation that is more like measure-for-measure, or balanced reciprocity that entails delayed payment; a concept that socially glues members of a community together and orders their relationships.

What these inscriptions have in common is their clear identification of the owner of the property, the names of objects owned, their quantities, the value of each object whenever appropriate, and the person entrusted with keeping them. Some of the entries may have entailed borrowing objects as a form of credit, as seems to be the case in these inscriptions, but this is not clear cut, as there is no indication of when the objects were expected to be returned or paid for, hence the possibility of either gift giving or lending a hand and helping when there is need with the expectation of future reciprocity whenever needed. The important point is that whatever the type of transaction covered by the inscriptions, a discursively inscribed archive, an indelible and permanent record of property, valued via a family of monies of account, linked the owner of the property and the person who received it. This record is an important part of the cultural memory of social relations in a community, indispensable to the longevity and survival of social relations. Accountability for valued property in ancient Egypt was enshrined in the notion that personal property must be respected and protected in fulfilment of *Maat* as justice and order, and that a measure of reciprocity, very likely of the balanced variety, was expected to be observed at some future point in time.

Settling Debt at Inheritance?

Family business can frequently be a source of major dispute, as some members of the family seek to settle what they construe to be their entitlement from inheritance money; inheritance time is typically a time for all kinds of financial claims and settlements to be made. The community of Deir El-Medina was no different:

> "List of the objects, which the workman Siwadjy made in order to bury the lady Tenhasy, his mother, while his brothers and sisters did not help him:
> 1 wooden coffin, decorated
> and treated with oil, makes 33 *deben*;
> 1 small hollowed inner coffin, makes 20 *deben*. May my lord
> take care
> to let it be shared with me because of these (objects)
> since he (*sc.* Siwadjy) took care of her when she was dead."
> (O. Petrie 16, Hier Ostr. 21, I, Janssen and Pestmen, 1968: 153)

In this inscription, Siwadjy, who claims that he had buried his dead mother (Tenhasy) without any help from his brothers and sisters, listed the money he incurred in having two coffins made for her, totalling 53 *deben*. His son, presumably the father is now also dead, asks for a property (it) to be shared with others entitled to inheritance so that he receives the equivalent of what his father had spent on burying Tenhasy. An earlier part of the inscription, not reproduced here, indicates that the property to be shared is a storehouse (ibid: 157). Thus, even in a case of burial and inheritance such as this, the party that perceives itself to be disadvantaged, notwithstanding that the dispute stretches over two generations of father and son, seeks a re-ordering of economic and social relations via some measure of reciprocity, for this is what living by *Maat* entailed. This wish for re-ordering, or return to order, by the injured party (Siwadjy's son) is conditional upon the son receiving the property that would redress the imbalance in the relationship within the family caused by the previous lack of reciprocity. In this case, accounting technologies intervened in this family dispute, and through such an intervention family bonds may remain intact as reciprocity is maintained via the redressing of the imbalance experienced by Siwadjy previously and subsequently by his son.

In summary, the inscriptions discussed here construct a wide array of daily activities that covered many domains in the private lives of members of the community of Deir El-Medina. Janssen and Pestman (1968: 137–138, my emphasis) note: "if in consequence we already know about the community and its life we are still better acquainted with it through the mass of ostraca-both actual potsherds and flakes of limestone, commonly too called ostraca in Egypt—on which the inhabitants of Deir El-Medina made notes in ink about *all kinds of minor matters* connected with their daily life." It is precisely these seemingly minor, mundane matters that render accounting discourse extremely powerful because they seem too minor to be worth noting, and thus without their inscribing via accounting entries can escape the attention of those affected by them. Yet, as we have seen, they have significant ramifications for ordering economic and social relations within a community.

Why All This Accounting?

This analysis shows just how accounting calculation and money of account intervened in almost every aspect of the lives of the workmen and their families who inhabited Deir El-Medina. Now it is opportune to pose the question raised earlier: Why so much accounting and in such a diversity of private domains if the Deir El-Medina community was so tightly-knit through blood relations, marriage, work, and social interaction? Wouldn't members of that community have felt they had enough of accounting given that every task they performed in the royal necropolis was accounted for in great detail by the Pharaoh's scribes? There are several themes to pursue here.

First, while supportive evidence is lacking, it is possible that the self interest of the scribes in promoting their expertise and earning additional income led to the proliferation of accounting inscriptions. The scribes commanded a fee for the private texts they inscribed and would have had a vested interest in increasing the dependence of members of the Deir El-Medina community upon their technical expertise in order to enhance their social standing. To put things 'in writing' may have been presented by the scribes to members of the village community as a means of protecting the rights of these members against opportunistic or dishonest behaviour by others.

Second, as literacy among the community of Deir El-Medina was estimated to be higher than the rest of ancient Egypt, this may in part explain the preponderance of village inscriptions (e.g., McDowell, 2001; Donker Van Heel and Haring, 2003). This passion to record nearly all details of "minor matters connected with their daily life" (Janssen and Pestman, 1968: 138) may have extended to exchange relations among members of that community, especially as money and material possessions were at stake.

Third, the working lives of the workmen were colonized by accounting inscriptions that spatially and temporally ordered them. As we have seen elsewhere in this book, accounting entries recorded the time and place where work on royal projects was undertaken, as well as work targets, measures of actual achievements, remainder of work to be completed in the following period, absence from work and its causes, and the rations to be given to every workman according to his rank (Janssen, 1994, 1997, 2005;

see also Chapters 7 and 10–12 in particular). With the workmen inhabiting such a world, accounting technologies could have become internalized and institutionalized into their lives as taken for granted routines. Moreover, the workmen may have appreciated the ability of accounting and its money of account to organize and order their everyday lives, and hence they may have sought to have their exchanges inscribed into accounting entries.

These three possibilities are inter-related and are suggestive of a strong connection between accounting inscriptions and order. For the ancient scribes were the agents of order in ancient Egypt; employing the technologies of their accounting craft they imposed order on everything they inscribed, even if their perception of 'reality' was quite the opposite. As Kemp (1983: 130) notes: "the essence of the act of writing is to reduce a complex and often chaotic reality to a comprehensible order." Further, inscription is an ordering technology in the way it compels thinking about what is worth inscribing and what is not, and how objects, subjects, activities and events should be organized textually. Accounting inscriptions, like all forms of inscription, provide an archive, a permanent record of a past they have constructed and ordered, a past that may be recalled with some certainty so that previous states of order could be reproduced in the present and future.

Earlier, the analysis focused on how accounting inscriptions and the use of money of account brought equality not only between objects exchanged, but also importantly between the parties to a transaction themselves irrespective of differences in their social standings. In doing so, accounting and money constitute new identities and a new order of social relations, and this may have been one of the reasons why we witness the intervention of accounting and money in most aspects of the lives of the workmen of Deir El-Medina. In an exchange of objects between, say, a chief of police and a workman, a new context is created via accounting technologies whereby both men are treated equivalently despite the clear differences in their occupations and most likely in their social standings. Roberts (1991) has already explored the potential for accountability to construct subjectivity and identity, and accounting is one of the prominent technologies that underpin human accountability. The workmen of Deir El-Medina may have found in accounting and money of account means through which they confirmed their views of self as honest, ethical subjects living and acting in accordance with *Maat* as manifest in reciprocal exchange of goods of equivalent value.

DISPUTE OVER PAYMENT: DISORDER CREEPS IN?

The previous transactions paint a harmonious picture where parties to a transaction were satisfied with the outcome, *Maat* was done, and reciprocity was observed. Yet, the state of order is never static or permanent but is frequently punctured by disorder. We have encountered this when discussing tax assessment, levying and collection (Chapter 6), temple accounts

(Chapter 9), and work on royal projects where not only minor cases of disorder were noted, but also major disorders in the form of the workmen strikes in Deir El-Medina (Chapter 11). The cases of disorder examined here are mostly of a ‘minor’ type but they are nonetheless worthy of note.

Some inscriptions on disputes entail hiring animals for private work at an agreed price:

> “Year 28 [reign of Ramesses III], 4th Akhet, 25: day of giving the donkey to the water-carrier Pentaweret for ploughing, and it died (while) in his possession, in 1st Peret. He was fined for its work, making 5 *deben*.
> . . . . .
> (It was) after nine full months, that he paid compensation to me for my donkey”
> (O. Petrie 9. // O. Ashmolean 1933.810, Kitchen, 2008: 413–414)

A fine of 5 *deben* was levied against Pentaweret to compensate the owner of the donkey for the work that the donkey did, but it is not clear how much the fine or the rent were, nor for that matter what was charged for the dead donkey. Payment was received but only after nine months, so it seems that the dispute was not taken to higher authorities or to the courts.

In other cases, disagreement between the exchange parties continued, with repeated refusal of what is being offered to the injured party:

> “Year 28 [of Ramesses III reign], 4th Shomu, 10: the Draftsman Menna disputed with the water-carrier Tji o, saying,
> “I gave (>paid) him 27 *deben* of copper as (ready) cash all (kinds) of (silver), saying,
> “Bring me a donkey, [. . . .] of thin cloth, 1 headcloth/kerchief, making 12 *deben*,
> Of smooth cloth, 1 shawl, making 8 *deben*;
> [. . .] pair of men’s sandals, making 2 *deben;*
> Emmer, 1 sack, making 1 *deben,*
> Flour, ¼ sack(= 1 *oipe*)
> What was given to him: copper, 27 *deben*. He brought me a donkey, and I sent it back to him (= rejected it). He brought me this other (one), but it is no good at all. Give it (back) to him, and let him bring me a good donkey, or else my money (back)! It was paid to him!”
> He took an oath by the Lord, L.P.H., saying
> “I shall give him a donkey, or else the money (back), by (‘up to’) 1st. Akhet, [*x*].”
> (Before) the two Chief Workmen and the scribe.”
> (O. Petrie 14, Kitchen, 2008: 413)

In this case Menna gave Tji’o 27 copper *deben* as ‘money’, and in return requested a list of objects, including a donkey, each valued in *deben* or *oipe* which come to a total equivalent to the money given to Tji'o. It seems from the inscription that the dispute centres only on the donkey, so presumably the other objects brought by Tji'o were satisfactory. The first two donkeys were no good, and Menna was getting frustrated for he is now insisting on either having a good donkey as a replacement for the dead donkey or his money back. In order to ensure that Tji'o does not carry on brining inferior donkeys to him, Menna secured an oath from Tji'o to either bring a good donkey or return his money, in the presence of three people of good standing in the village as witnesses. Whether or not Tji'o complied with his oath we will never know, for the text ends without saying. In the cases discussed here, accounting inscriptions of itemized objects valued via money of account intervened to clarify the nature of disorder or dispute. Being able to assign a value of each object given by one party compels an understanding of the extent of injury inflected upon that party by the other exchange party. Accounting construction of value also serves to indicate the extent of responsibility of the erring party towards the injured party, by drawing an upper limit on the value of objects he s/he has to deliver to resolve the dispute. Reciprocity through value equivalence is expected if order and satisfaction in exchange are to be the outcome.

Stolen items were considered serious breaches of order, and as a consequence in many, but not all, cases were punished severely via the imposition of financial penalties:

> "(1) List of property stolen by the female servant of the charioteer Pekhari:
> (2) 1 wash-basin of hsmn-bronze, makes 20 deben, makes penalty 40 deben of copper
> (3) 1 . . . vessel of hsmn-bronze, makes 6 deben ,, ,, 18 ,, ,,
> (4) 1 spitton of hsmn-bronze, ,, 6 ,, ,, ,, 18 ,, ,,
> (5) 1 kt-vessel of hsmn-bronze, ,, 3 ½ ,, ,, ,, 10 ½ ,, ,,
> (6) 1 wd-vessel of hsmn-bronze, ,, 1 ,, ,, ,, 3 ,, ,,
> (7) 2 d3w-garments of fine Upper-Egyptian cloth of first quality, (makes penalty) 6.
> (8) 2 sdy-garments of fine Upper-Egyptian cloth, ,, ,, 6.
> (9) 1 mss-shirt of fine Upper-Egyptian cloth, cast off, ,, ,, 3.
> (10) 17 clews of yarn, makes penalty 51 clews of yarn.
> (11) 1 hair of . . . . , makes penalty 3."
> (Černý, 1937: 186–187)

In this inscription, every stolen object is indicated along with its value in copper *deben*, except for the yarn in entry (10), with a multiplier of 2 or 3 applied to the value of the object to determine the penalty. The main sanction exercised therefore is financial, although we must not underestimate the significance of social sanctions of someone found out to be steeling. The extraction of a penalty signals a shift from disorder to order and to

Maat as justice and the pristine condition of all things. That the financial penalty for theft is so severe is an indication of the seriousness of the crime, presumably in the hope that it will act as a deterrent against the possibility of similar future offences. Accounting valuation of each stolen item, along with the determination of the 'appropriate' financial penalty, visualized the significance of the crime and the 'price' that had to be paid for disturbing the state of order.

An important aspect of recompensing for the work done is whether or not the 'client' felt that the agreed price was reflected in the quality of work received:

> "What Ruty gave to the carpenter Mery-Re in exchange for the statue:
> 1 tunic makes 5 *deben*
> 5 bundles vegetables makes 2 ½ *deben*
> 4 mats makes 2 *deben*
> The statue as wood and also its base makes 1 *oipe*
> And the god gave the statue 8 copper *deben*
> 10 copper *deben*: the excess 2 *deben*"
> (O Letellier, McDowell, 2001: 83)

In this inscription, items valued at 9 ½ copper *deben* were given by Ruty to the carpenter Mery-Re in order to make a statue (with the wood provided by Ruty). After the statue was made, Ruty considered the work done not to be worth the agreed recompense. As an injured party, he felt that *Maat* and reciprocity were violated, and that restitution was required to redress such disorder. To resolve the dispute the parties went to the Oracle and the god valued the work at 8 *deben* hence leaving a remainder of 1 ½ *deben*, rounded up to 2 *deben*, in favour of Ruty. The intervention of god as the Oracle signalled a return to order.

In some cases, disputes could not be settled amicably between the disagreeing parties, or even by reference to the Oracle, in which case the dispute was taken to court. One example relates to the purchase of a slave Syrian girl by a woman called Erenofre, who was then accused of using items belonging to another woman called Bekmut to pay for the slave girl without the latter's consent:

> "In year 15, seven years after I had entered into the house of the superintendent of the district Si[mut], the merchant Re<ia approached me (Erenofre) with the Syrian slave Gemnihiamente, she being (still) a girl and he said to me: "Buy this girl and give me a price for her." And I purchased the girl and gave him a [price] for her. I will now state in front of the authorities the price that I gave for her:
> "1 shroud of Upper-Egyptian cloth, makes 5 *kite* of silver;
> 1 blanket of Upper-Egyptian cloth, makes 3 1/3 *kite* of silver;
> 1 *d3yt*-garment of Upper-Egyptian cloth, makes 4 *kite* of silver;

> 3 *sdy*-garments of Upper-Egyptian cloth, makes 5 *kite* of silver;
> 1 dress of fine Upper-Egyptian cloth, makes 5 *kite* of silver."
>
> Bought from the citoyenne Kafy, 1 *g3y*-vessel of *hsmn*-bronze, makes 18 *deben*, makes 1 2/3 *kite* of silver.
>
> Bought from the head of the storehouse Pyiay, 1 *g3y*-vessel of *hsmn*-bronze, makes 14 *deben*, makes 1 ½ *kite* of silver.
>
> Bought from the *web*-priest Huy-Pinhas, 10 *deben* of beaten copper, makes 1 *kite* of silver; 1 *mnt*-vessel of honey, makes 1 *hekat*, makes 5 *kite* of silver.
>
> Bought from the citoyenne Tjuiay, 1 couldron of *hsmn*-bronze, makes 20 *deben*, makes 2 *kite* of silver.
>
> Bought from the steward of the house of Amun, Teti, 1 *kbt*-vessel of *hsmn*-bronze, makes 20 *deben*, makes 2 *kite* of silver; 10 *mss*-shirts of fine Upper-Egyptian cloth, makes 4 *kite* of silver. Total, 4 *deben*, 1 *kite* of silver from all sources. And I gave it to the merchant Re<ia, there being (comprised) in it no article belonging to the citoyenne Bekmut. And he gave me this girl, and I gave her the name Gemnihiamente."
>
> (P. Cairo, 65739, Gardiner, 1935: 141–142)

This example of the disruption of social cohesion and order necessitated the intervention of accounting technologies with the defendant not only itemizing and indicating the source of every commodity used to pay for the slave girl, but also indicating the appropriate values in *deben* and *kite* of silver against each item. This accounting-based 'evidence' was supplemented by an oath that Erenofre had to take before the court to indicate that she was telling the truth. Accounting discourse was therefore an important part of an assemblage of 'evidence' that was scrutinised by court, in addition to taking an oath as part of ethical conduct underpinned by *Maat*. Although the inscription stops short of saying how the court procedures were concluded, we can be assured that a judgment was made to ensure that the state of order was re-asserted.

In all these cases relating to dispute over work done or payment, accounting technologies were busy constructing values of items, levels of penalties, and differences between disputants in order to ultimately erase that difference via the payment of 'appropriate' compensation and thereby helping to engineer a return to and an affirmation of order. Accounting was therefore a fundamental technology that made possible the re-forging of relations between disputants so that social cohesion among members of the community of Deir El-Medina could be perpetuated. In all these cases, the performativity of accounting was evident: accounting produced the very effects it inscribed in the form of the constructed values of the amounts of injury inflicted by one human against another, for these became the basis upon which instances of injustice were addressed, either by the willing consent of the disputants, or through the Oracle, or ultimately via the courts.

MONEY AND EXCHANGE

In this section the discussion of money is developed further, initially by attempting to theorize further the use of money of account in ancient Egypt and its link to order, followed by a more general discussion of non-coinage money before moving on to coinage and post coinage money.

Money? What Money?

In the vast majority of inscriptions examined earlier, a family of monies of account was used to value objects. The genesis of the use of a money of account in ancient Egypt goes back at least to the Old Kingdom. Černý (1954: 904) notes: "It seems that as early as the Old Kingdom metal was used as a means of fixing and expressing the prices of commodities and services", with the word 'metal' designating something similar to the *deben* system. Černý (ibid: 912) also mentions a metal unit called 'a piece', equivalent to 1/12 of a *deben* used during the New Kingdom, which, he contends, "designated the flat 'seal' of a signet ring . . . [and] was a flat, round piece of metal 1/12 *deben*, that is, about 7.6 grams, in weight, possibly with an inscription to indicate this weight or the name of the issuing authority. If so, the "*piece*" was practically a coin." This is intriguing but also troubling, for the contention that the '*piece*' was a coin is based on a surmise, with no supportive evidence, that it was inscribed with its weight and/or the name of the issuing authority. Even if the "*piece*" was inscribed as Černý suggests, it could not have functioned as a coin does in modern economies for the "*piece*" could not have wider circulation given surviving evidence.

More defensible is the argument of using metal, in particular broken pieces of metal, especially copper, for payment of remainders or difference when the goods exchanged did not add up to the same value. Černý shows that actual metal was at times used as payment to ensure value reciprocity should there be a difference between the values of items exchanged in favour of one party or the other which could not be paid for by more objects, unless credit was granted. Černý (ibid: 907) here cites the lawsuit relating to the purchase of a Syrian slave girl (Gardiner, 1935), where 10 *deben* of beaten copper, valued at 1 *kite* of silver, were part of the payment.

Bogoslovsky (1987) draws a useful distinction between three ways in which metal was used in inscribing ancient Egyptian transactions: metal as metal; metal as a medium of valuation; and metal as a materialized expression of value. The use of metal as metal designates it a product of social production, one that can be exchanged for other goods of similar value, say so many pieces of copper or silver for an ox, as in the pieces of copper cited in the previous paragraph. Metal as a medium of valuation signals the use of a particular metal as a standard measure of value that brings into equivalence two sets of commodities exchanged by two parties to a transaction; so, for example, a coffin being exchanged for pieces of cloth where all these exchanged objects are valued to be equivalent using metal, such as copper *deben*. In this case, the commodities exchanged by the two parties are brought into equivalence by equating each side with the same number of units of the metal as so many copper *deben*. This is the most frequent use of metal encountered in the transactions discussed here. Even though in this second form metal has a universal value, this value is *concrete* in that it is linked to a specific type of metal, say copper, and could not be elevated above other types, say silver; hence Bogoslovsky (ibid: 230) coins for it the term 'concrete universal equivalent'.

Žižek (1989: 24) notes: "The commodity A can express its value by referring itself to another commodity, B, which thus becomes its equivalent: in the value relationship, the natural form of the commodity B (its use-value, its positive, empirical properties) functions as a form of value of the commodity A; in other words, the body of B becomes for A the mirror of its value." This perceptive comment by Žižek underscores how the value of one commodity is constructed via the value of another commodity, just as we have witnessed in the case of money of account in ancient Egypt. However, value is not inherent in either commodity, nor is it simply a floating quantity waiting to attach to a commodity, but is rather a construction of the technology of valuation, via the intervention of money of account, that is given seeming permanence and stability in the form of accounting inscriptions. This construction of values orders commodities and the relationship between parties to exchange. The intervention of these seemingly objective and impersonal technologies of accounting to construct value engenders wider acceptance within social relations of the value thus constructed, and creates a myth that value exists in itself and is universally inherent in commodities; such is the performative power of accounting and money of account.

The third use of metal as a materialized expression of value suggested by Bogoslovsky has been referred to variously by Egyptologists, as 'payment' (Peet, 1932), or 'money' (Janssen, 1975a: 500), or cash (Kitchen, 2008: 413). Here, the commodities exchanged are valued using metal, particularly silver, as 'money'. Bogoslovsky (ibid: 228–229) cites an entry from Gardiner (1935) where "a metal article of a certain weight and metal as an ingot of the same weight were considered as equivalent". Bogoslovsky (ibid: 233) cites another entry from the reign of Ramesses IX "Total *hd* (silver) as labour . . . of the draughtsman and the carpenter: [X+] 190 dibans (*deben*) of copper" and argues that in this inscription the use of silver does not signify either metal or concrete universal equivalent but instead "a materialized expression of labour, i.e., a purely economical category which is fully detached from the meaning *hd*- 'silver'". Here silver can be abstracted and detached from concrete products and equivalents to which the second form of metal is tied up. This three-tier signification of metal, particularly silver, is remarkably similar to how silver is used in contemporary France, where the same word (*l'argent*) designates '*l'argent* as natural metal (*silver, silber*), *l'argent* as money or monetary sign and *l'argent* as currency invested' (Derrida, 2002: 319).[2]

Whether considered a concrete universal value or a category detached from metal and hence liberated to circulate much more than the concrete universal category, money and the accounting entries that inscribe it are constructive and performative of order. In either case, exchanged objects are brought into equivalence, economic reciprocity is made possible, and the parties to an exchange are brought into parity as far as the exchange is concerned. By freeing itself from metal, the third category of money commands greater circulation and becomes a material expression of labour, thereby constructing new modes of labour as ordered subjects and also new configurations of social and economic relations.

The accounting inscriptions analyzed here share a major characteristic with all exchange transactions in pre-modern, pre-capitalist societies: the absence of a professional labour force whose activities are ordered through administrative and accounting technologies. Rather, those involved in exchange relations are typically the producers of objects exchanged as well as the owners of the means of production (Sohn-Rethel, 1977), and hence no matter what their social or professional standings are in society, they are ordered into a relationship of equality through the intervention of accounting, valuing, and inscription. Žižek (1989: 25) describes such liberated transaction parties thus: "they meet as two persons whose activity is thoroughly determined by their egoistic interest; every one of them proceeds as a good utilitarian; the other person is for him wholly delivered of all mystical aura; all he sees in his partner is another subject who follows his interest and interests him only in so far as he possesses something—a commodity—that could satisfy some of his needs."

How does all this connect with the wider debate on money? Money is typically defined as a medium of exchange, a store of value, and a form of liquidity, which also functions as a *numeraire*. It is often presumed that the primary expression of money is as a store of value/medium of exchange, because even before the invention of coinage, money is found in various cultures, including as we have seen ancient Egypt, in the form of bullion (e.g., silver or gold), or some important commodity (e.g., grain, oil) in systems where the item bartered also becomes the standard measure of barter. This view has been challenged (e.g., Sahlins, 1972), not least for imposing a modern definition of money on cultures where there may be no equivalent meaning. Rather than holding that money when it first emerged was a store of value and a medium of exchange, the evidence from ancient Egypt points to a different genesis: that the first money is that written money of account that orders exchange and social relations. Hence, money is understood here to include any *numeraire* that is used as a 'money of account', whether it is a concrete universal equivalent or a medium of valuation or an expression of value detached from the metal object (e.g., silver) in the sense adumbrated by Bogoslovsky. To mark this distinction, the following discussion differentiates between coinage and non-coinage money.

Non-Coinage Money

According to Mauss (1969, f.n. 25: 93): 'In all societies that preceded those which minted gold, bronze and silver, other things, particularly shells and precious metals, were used as a means of exchange and payment'. Mauss acknowledges that shells and precious metals have other characteristics beyond their use for exchange and payment. First, they have a mystical quality as talismans or 'life-givers'. Second, although they have a general circulation within and between societies, they are still attached to persons or clans and valued according to the standing of the person who gives them. Third, the values of these shells and precious metals are unstable, but this type of money cannot be stamped; thus their value fluctuates according to the number and size of the transactions for which they are used. For Mauss, these shells and precious metals have the same function as money in modern societies for two reasons. First, they have a quantifiable purchasing power, for example, an ox is valued as worth so many shells, but the number is not fixed by a state authority. Second, this purchasing power is liberating as the use of these metals and shells is public and different types of money are additive according to fixed rates.

Polanyi (1977: 104) suggests that privileging exchange use "assumes an original situation of barter and an operation suited to facilitate it; namely, the acquisition of money objects in order to exchange them for the desired goods", a view, he contends, not supported by the history of money. He argues that in ancient Egypt and Mesopotamia, it was the role of money as a money of account (standard of value) that signalled the genesis of money. Yet, the role of money as money of account has frequently been marginalized or even suppressed because of the privileging of the use of money for exchange and payment:

> "in France, the States General of 1575 asked for and obtained the suppression of accounting units (which introduced a third definition of money, a purely arithmetical one, in addition to the definition by weight and that by nominal value: this supplementary relation concealed the sense of monetary operations from those who did not understand it)". (Foucault, 1974: 170)

Polanyi's work seeks to correct for this limitation; he (1968: 166) proposed a definition of money, which he argues, is independent of markets and derived from 'specific uses to which quantifiable objects are put': payment, standard of value, store of wealth, and means of exchange; the vital feature of money objects in all these uses is their quantifiability. Polanyi (1977: 103) sees the standard of value use of money as accounting-driven, because such use seeks to quantifiably equate, through some common denominator, amounts of different kinds of goods for specific purposes so that ‘apples and pears’ can be meaningfully aggregated by relating them to a ‘standard’. In barter, reciprocity is attained through the quantification and summation of the goods to be exchanged. In the management of staples, such as those linked to the palace or the temple in ancient Egypt, quantification and summation facilitate stewardship bookkeeping, planning and budgeting. Yet, these uses do not imply that there will be one unitary system for assigning value: pre-coinage cultures operate with various kinds of ‘special monies’ invented for ‘special purposes’. In eighteenth century Wydah *cowrie* money was used for statistical enumeration and *damba* beans as gold weight and a device for accountancy (Polanyi, 1968; Goody, 1986, 1987). In such cultures different objects, both physical and symbolic, are employed in the construction of money, and different money uses can be constituted and institutionalized quite independently of one another.

This pattern of monetary forms is borne out in ancient Egypt. As we have seen, special monies co-existed alongside each other even in the same account. These monies were ‘special monies’ in Polanyi’s sense in that they were united by their ‘quantifiability’ and ability to function in particular use(s). For example, it has been noted in several places in this book that the Egyptian scribes had a preference for the use of the *khar* as a grain-based measure for grain containers (especially emmer and barley) and low value objects, *deben* of copper, silver or gold for expensive objects, and *sniw* or *deben* of silver/gold for yet more expensive objects. The observed greater frequency of the use of specific commodities in exchange, e.g., oils, sandals, basketry, garments, and other small objects, was not exclusively due to their necessity for or popularity with the ‘average’ household but because they were used frequently as ‘change monies’ to make up for differences in the values of expensive objects exchanged, such as coffins and oxen. It is crucial to note that there was an underlying principle of coherence bonding these ‘special monies’, evident in how the ancient scribes sometimes recorded the same transaction using more than one ‘money’[3]. To recapitulate, the first form of money is a money of account. For example, in respect of the use of money for payment and finance (Polanyi, 1968: 167), money is the supplement that is central to and performative of both these uses, for neither is possible without the inscription of value that is constituted in some from of writing.

This money of account, this seemingly distant and poor relative of modern money, does what all types of money do in the process of exchange: it reduces the quantities and qualities of different goods into a constructed equivalent index of value. As Žižek (1989: 17) notes, money is “that commodity which renders possible the commensurability of the value of all other commodities notwithstanding their particular qualitative determination.” In equating the values of different objects exchanged, in abstracting away from the quantities and qualities of these objects, in suppressing their individual qualities via their reduction into commensurate value, a new order is established, whereby the constructed value intervenes in the space separating the buyer and the seller, whereby the objects exchanged are brought into one and the same value rank.

To conclude, in a non-coinage economy, such as that of ancient Egypt, what money did not do was have the ability to circulate and be traded in itself, the special quality conferred by coinage, and even more by post-coinage, monetary instruments. However, this non-coinage money ordered community life by facilitating payment through the attachment of values to objects used for payment, and by enabling exchange to occur while retaining a definable value over time and space. Metals were designated as being precious once they were used by individuals, thereby constructing a new social order in which the status of the elite in society was constructed and confirmed through gift exchange (Mauss, 1969) or conspicuous consumption. In other words, the items which emerge as the signifiers of value within the first money signs do so because they had previously been constructed and perceived as stores of some kind of value, through being named and counted. Once this money of account emerges and is expressed in accounting inscriptions, it becomes the 'currency' through which definable value is expressed and the means by which social and economic domains are ordered and along with them individuals and communities.

Coinage Economy

Coinage represents the writing of a standard value onto metal with value depending upon the extent to which the metal is calculated to be more or less 'precious'. The emergence of coinage is usually seen as the decisive change in monetary history, for not only does it transform the scope and extent of liquidity and exchange by virtue of becoming a universal sign (Foucault, 1974: 177), but also, in standardizing exchange ratios by 'denominating' them, it underscores the importance of keeping accounts in monetary units.

It is most likely as metal coins that money has acquired its more pejorative connotations, summed up by the famous phrase 'money is the root of all evil' (see Goodhart, 1990: 25) and the unflattering designation of it by Marx (1973) as "the universal whore". Ever since Aristotle in *Politics* designated household economy (*oikos*) as natural and the use of money as unnatural, the quest for money has frequently been considered impure and immoral (but see Harris, 1989). Derrida (2002: 316) admonishes this form of money as "objective, material, technically masterable calculability, . . . cold monetary accountability of material interests, of exchanges, or of the production of useful goods." It is this form of coinage (and post-coinage) money which animates the interests of economists. Keynes (1930) distinguishes 'money of account' from 'money proper'. 'Money of account' is taken to be the early form, the poor relative; that non-proper thing known as 'commodity money' which developed later into 'proper money'. For economists, the significance of 'money of account' is simply dismissed as "[t]his is only an accounting device for amalgamating entries originating from the exchange of different goods and should not be intended as money in any sense" (Anderlini and Sabourian, f.n. 10, 1992: 102). In contrast, 'money proper' is considered the mechanism through which barter was transformed into a money economy; it is the manifestation of an acknowledgement that debt can be substituted for commodities in the settlement of transactions. This notion of 'money proper' is viewed as 'an inherent part of modern social life as well as a specific type of symbolic token. It is fundamental to the 'disembedding of modern economic activity generally' (Giddens, 1991: 26).

As metal coins, money became the site of quantification of the price relation between the various metals employed (e.g., gold versus silver) and also the distortion between the weights of coins and their denominated (nominal) values. But as Foucault (1974: 169), when commenting on sixteenth century practice, suggests "these two series of problems were linked, because the metal appeared only as a sign, and as a sign for measuring wealth, in so far as it was itself wealth. It possessed the power to signify because it was itself a real mark." Thus, money signifies its measuring value because "the sign the coins bore—the *valor impositus*—was merely the exact and transparent mark of the measure they constituted." (ibid: 170). This, Foucault argues, is consistent with the organization of signs in the sixteenth century as signs were constituted by resemblances which, in turn, necessitated the development of further signs in order to be recognized. With the advent of mercantilism in the seventeenth century the organization of money as a sign took a different form as money became the instrument of the representation and analysis of wealth, and wealth the content represented by money (ibid: 175). Here the value of money emanates from its pure function as sign rather than from the value of metal upon which it is inscribed.

Moving to the post-coinage era, Rotman (1987) coins the term 'xenomoney' to describe money in the twentieth century; the 'alien', pure electronic writing, circulating as paperless, cashless transactions through the globe 24-hour-a-day money markets. It is this form of money that for Derrida (2002: 326–327, original emphases) leads to the dematerialization of currency, meaning "the passage from one medium to another, from the visible medium of the sort of substance that is held in one's hand or in the pocket of the *holder* [porteur] (the metal or the paper) to an electronic medium that keeps a register that the subject does not *carry* [porte] as such, directly on him." Rotman (ibid: 92, original emphases) suggests that in xenomoney sites of value are illusory, because what this money signifies is its own future: "As a sign one can say that xenomoney, floating and inconvertible to anything outside itself, signifies itself. More specifically, it signifies the possible relationships it can establish with future estates of itself. Its 'value' is the relation between what it *was* worth, as an index number in relation to some fixed and arbitrary past state taken as an origin, and what the market judges it *will* be worth at different points in the future".

Much of the controversy surrounding 'money', whether in its 'primitive' or 'modern' form, is caused by its power. As Humphrey and Hugh-Jones (1992: 15) note "Money is not just wealth, it is also a threat to power legitimated in a particular social organisation." Similarly, Bloch and Parry (1989: 3, original emphasis) argue:

> "what all [the] strands in our cultural tradition appear to agree about is that—whether for good or ill—money acts as an incredibly powerful agent of profound social and cultural transformations. Regardless of cultural context and of the nature of existing relations of production and exchange, it is often credited with an *intrinsic* power to revolutionise society and culture, and it is sometimes assumed that this power will be recognised in the way in which the actors themselves construct money symbolically."

This remarkable and performative power of money is a two-sided phenomenon: money can be seen as an instrument of freedom, as the means through which personality can be extended and the circle of trust expanded, yet, it is also a threat to moral order, as Simmel (1978) has argued, therefore underscoring the performative role of money in constituting and ordering personality and trust relations. Yet, money can also be disruptive of moral order if obsession with it promotes actions that elevate material gain over ethical concerns.

In the presence of modern money new forms of social and economic interactions, and hence new configurations of order, become possible. In particular, trust relations are significantly extended in the presence of money. In pure barter exchange, trust is invested with the personal attributes of the transacting parties, and hence socially it is limited in scope and remains internal to, and dependent upon, the personalities of the two parties and the experience of their repeated exchange. In the presence of modern money, trust is not only located at this individual level but is also broadened to encompass relations in the economic circle within which money is legitimated and accepted. The use of money also facilitates 'action at a distance'. If money is mainly a 'money of account', management at a distance is facilitated by virtue of this money making it possible to quantify and report periodically on activities (see, for example, Chapter 13). Later forms of money, such as coinage and post-coinage', extend this form of 'action at a distance' by rendering possible possession of objects at a distance, whereby wealth becomes separated from individuals and groups (see also Simmel, 1978: 332–333; Giddens, 1991: 26). This performative role of money constructs and orders new opportunities for wealth creation and transfer not possible before the invention of money.

While the emergence of a specific form of money gives rise to a particular world view in which that money produces particular configurations of power, the reverse argument also holds: "an existing world view gives rise to particular ways of representing money" (Bloch and Parry, 1989: 19)[4]. Anthropological studies suggest that the meaning of money should not be restricted to the four uses mentioned earlier (payment; standard of value; store of wealth; and means of exchange), but is also shaped and constituted by specific cultural settings (see the edited volumes by Parry and Bloch, 1989, and Humphrey and Hugh-Jones, 1992). The meaning of money is not fixed but is frequently re-negotiated over time, even within the same culture, and across different cultures, and with such changes in meaning new configurations of ordering social relations emerge.

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This chapter examined the impact of accounting inscriptions and money of account in the context of exchange relations on ordering the lives of the community of workmen in the ancient Egyptian necropolis village of Deir El-Medina. The accounting inscriptions detailing exchange of objects valued via money of account constructed everyday type of private exchange that are seemingly mundane and repetitive. Yet, it is precisely because of these qualities that it was possible to glean important insights concerning how the lives of members of such a community were ordered. The inscriptions examined reveal how accounting technologies of quantification and valuation, via money of account, combined to bring the values of exchanged objects into equivalence, rendered the exchange parties equal irrespective of their social standings, and ordered social relations. As Romer (2003: 26) notes of the inscribed texts on pottery sherds or ostraca: "It is easy to imagine that such solid documents appeared to the villagers to be self-contained entities with a veracity of their own, powerful abstractions which gave a special gravity to the day-to-day affairs of their small community."

Based on the inscriptions discussed earlier, and moving beyond the Deir El-Medina community, it is evident that the roles of accounting and money loom large. The invention of money has profound effects upon the construction and status of value, whereby what is typically an internal, and personal concept of value derived under barter in the absence of money of account is transformed into a more precise, definite construct of wider acceptability underwritten by societal-wide acceptance in the presence of money. Moreover, the interaction of money and accounting creates new possibilities of ordering lives by facilitating 'action at a distance' not possible before the invention of money. Although 'money of account' is decried by economists as something that 'should not be intended as money in any sense' (Anderlini and Sabourian, 1992: 102), once it is combined with accounting inscriptions it becomes possible for a wide range of exchange activities to be quantified, documented, and reported upon on a periodic basis. With the emergence of coinage and xenomoney, new modes of social and economic order as well as 'action at a distance' become possible; for now, the interaction of these new forms of money with accounting renders feasible an infinite mobility of exchange and possession at a distance, as wealth can now be separated from individuals and made easy to transfer both temporally and spatially.

This accounting/money nexus impacts trust and reciprocity in a significant way. While money and accounting are viewed as disruptive of social bonds, they can also cement relations of trust. The notion of a value that commands society-wide acceptance is rooted in a strong measure of trust in money and accounting without which value would cease to have a universal meaning. Compared to situations of pure barter and redistribution, a fundamentally different notion of reciprocity becomes possible with the emergence of money and accounting. The approximate understanding of reciprocal exchange of different commodities under pure barter which has only an internal referent is transformed into a more precise expression of equivalence measured and accounted for in monetary terms with external reference.

With money of account as an ancient form of money, a socially shared appreciation is generated of its role in valuing objects and also in establishing equality between parties to an exchange. This role is expanded further when coins and thereafter xenomoney are developed, where sharing of the understanding of money's role becomes more universal and new configurations of social and economic order become possible, as modern money forms accelerate the circulation of objects like never before. Money in all its forms brings the values of objects exchanged by transacting parties into equivalence and accounting inscriptions visualize this equality for all concerned. In this process of valuation and inscription, money and accounting technology combine to erase the individual characteristics of the objects exchanged, as their individualities and complexities are reduced to a number; a constructed value. Whether in its ancient or most modern form, money is endowed with qualities that almost defy and deny its social construction: it is always seen as a neutral and impersonal medium, hence its potency and power. As Derrida (2002: 320) remarks: "money is considered to be the neutral, indifferent, impersonal medium, the general equivalent of all exchange and all transaction, the universal substitute, in fact, the best shared thing (when its quantity is the least well-shared thing in the world)". This rendering of money as authentic, impersonal, and neutral is so widely embraced "as if the decision to consider the natural metal (gold or silver) as value or natural wealth were not already a nonnatural effect of convention, of credit, of quasi fiction" (ibid: 317). It is this ability of money to construct values and assign them to objects that neutralizes differences between them. This neutralization is performative, as it produces a context in which parties to an exchange are allowed "an access to dignity, that is, to the fact that everyone, *every one*, is worth as much as *the other*, precisely beyond all value: *priceless*" (ibid: 325, original emphases).

Part V

Epilogue

15 Epilogue

> "Accounting was born without notice and reared in neglect. It was of primary interest only to anonymous, faceless accountants. To some accounting was of secondary or tertiary interest but to most it was a subject to be ignored. That was the past and it was quite." (Sterling, 1979: ix)

Thus pronounces Sterling at the beginning of his book *Toward a Science of Accounting*. These comments cannot be dismissed simply on the grounds that Sterling was perhaps overstating the negligence of the accounting craft in the past in order to highlight its contemporary importance. Even in more contemporary times, it seems that the views held of accounting are not flattering. In trying to explain why, for example, sociologists have not given the attention that the study of accounting deserves, Carruthers and Espeland (1991: 31) note "Accounting is hardly a glamorous activity; repetitious, detail oriented, and methodical, it is not the subject that quickens the pulse. Accounting, it seems, is as exciting as adding up a long column of numbers". It would by now have become evident to readers how Sterling's quote, and the seemingly widely held view that accounting is not a glamorous activity (Carruthers and Espeland), are so far removed from the plentiful inscriptions on the central roles played by accounting technologies in ancient Egypt, on its importance as a craft, and on the significant roles assumed by its practitioners, the scribes. Although Sterling's argument was not specifically concerned with ancient Egypt, the inscriptions examined in this book amply demonstrate that ancient accounting was neither 'reared in neglect', nor was of 'secondary, tertiary interest', nor was 'a subject to be ignored', nor was it practiced by 'anonymous, faceless accountants'. Rather than accounting having a past that 'was quite' as Sterling asserts, this book has demonstrated the reverse: an accounting past that was busy and engaged in constituting the ancient Egyptian world. It has been shown that accounting was a major occupation, one that the young aspired for, and it was a technology that quantified, inscribed, and ordered the cosmos, the earth, and the netherworld of the ancient Egyptians. Similarly, the apparently widely held view summed up by Carruthers and Espeland that accounting is as "exciting as adding up a long column of numbers" can be laid to rest in view of the diversity and richness of the technologies of accounting we have encountered even in as ancient a civilization as that of Egypt. This chapter seeks to demonstrate the significance of accounting inscriptions in constructing order in organizations and society by drawing together the threads of the arguments developed in earlier chapters concerning the theorizing of accounting as a performative and ordering technology.

As indicated in Chapter 1, the decision to draw upon ancient Egyptian material was motivated by the desire to entice future researchers to enrich the theorizing of accounting by consulting ancient accounting inscriptions. Writing in Al-Muqaddima, Ibn Khaldun (1379/1991) has argued persuasively that the object of history is knowledge of human social organization which he equated with civilization. He was also at pains in emphasizing that history is a fundamental and noble discipline (his exact word is ‘art’ not ‘discipline’) that all nations should take seriously. More recently, Barthes (1973: 101) has sought to place history centre stage in studying the ‘human condition’, and to reverse the traditional emphasis that places “Nature at the bottom of history” to one where Nature itself is understood as historical.

In writing this book, ancient Egypt provided an ideal context to draw upon its history more generally and on its accounting and administrative inscriptions more specifically. As part the historical heritage of the world, ancient Egyptian inscriptions offer a rich vein of knowledge of human social organization, as Ibn Khaldun puts it, knowledge that afforded the opportunity to engage history fully throughout this book in the effort to theorize accounting. The ancient Egyptian inscriptions of myths, kingship, religion, bureaucracy, social organization, and economic arrangements that were drawn upon here have been particularly helpful in facilitating a deeper and more reflexive understanding of order, given the centrality of order to the ancient Egyptian world. More specifically, Egyptian *accounting* inscriptions exhibit much richness, level of detail, internal organization, coherence, and sophistication: all these qualities are crucial to broadening and deepening our understanding of the accounting craft and of its practitioners, the scribes. Notwithstanding the considerable lacunae in these inscriptions, the problems of translating them from an ancient language to contemporary languages, and the, at best, sparse information on context (Carmona and Ezzamel, 2008), their analysis opens up an important space to distil quite remarkable, original, and refreshing insights on the multi-faceted, performative roles of accounting in ordering organizations and society.

ORDER

As De Botton (2007: 180) suggests, “the drive towards order reveals itself as synonymous with the drive towards life.” Yet, despite its universal importance and centrality to human civilization, the notion of order is extremely fluid and ill-defined. Typically, discussion of order is coupled with action and contrasts the question of voluntarism vs. collectivism: whether order is achieved by dint of individuals identifying spontaneously their own interests with what is construed as general interests or alternatively whether order is attained by means of deliberate collective endeavour. Both approaches to the study of order have their critics (see Alexander, 1982 for a review). To overcome this aporia, Alexander argues that action should be disentangled from order and both voluntarism and collectivism should be admitted to the study of order, a position already anticipated by Ibn Khaldun (1379/1991) who underscored the importance of the state (or rulers), as well as individuals in the way they organize their relationships with each other, for establishing and securing order. The accounting inscriptions examined in this book attest to the co-existence of these two types of order, for these inscriptions both highlight the performance and responsibility of individuals as well as the organization of the activities of groups of subjects and also of state institutions. No matter what theoretical angle is taken to its study, order is about organization, systematization, patterns that impart meaning on subjects and objects, coherence, sameness, suppression of difference; recurrence and repetition; all are activities that entail an exercise in violence and coercion (Vico, 1968; ; Hall, 1973; Bauman, 1993; Bateson, 2000; Douglas, 2002). Disorder is typically constituted as the remainder of what has not been construed as order.

While much of the extant literature on order is concerned with the social, political, or economic domains as types of 'worldly' order, the ancient Egyptian material discussed in this book also shows that the concept of cosmic order is of major importance. For Plato (1929, *Timaeus*), the social world is organized in the image of the order god imposed on the chaotic universe. The ancient Egyptian myths of Creation, Osiris, the Contendings of Horus and Seth, and the Day of Judgment are all concerned with dimensions of cosmic order which had strong implications for the Egyptian social world. Indeed, in ancient Egypt cosmic order (the cosmos) and worldly order (the earth and the netherworld) were strongly intertwined, with failure in one domain assumed to lead to failure in the other domain. This insight is tantalizing and one that is not a dominant view in contemporary thinking. Elias (1993: 115) has bemoaned the artificial separation of the 'social' from the 'natural' that plagues theorization in contemporary times: "As an autonomous nexus represented by eternal laws, 'nature' appears to stand on one side, people and their social world—artificial, arbitrary and structureless—on the other"; a separation that the ancient Egyptians avoided.

Order was manifest in many aspects of ancient Egyptian life. It was assumed that gods lived by and acted according to *Maat*, the quintessential expression of order (in the ancient Egyptian language, *Maat* signifies an assemblage of meanings: order; truth, justice, righteousness; the pristine condition of the world; see Chapters 2 and 4). Kingship was an exercise in order: it was the Pharaoh's responsibility to do *Maat*. As Silverman (1991: 67) notes:

> "Because the role of the king was a fixed element in the pattern of divine order, his existence was part of *ma'at*. Through his position the

> monarch maintained *ma'at* and offered *ma'at* to the gods. When the king ruled, a proper balance was maintained, enabling the ordered universe to persist. Therefore, the king was essential to world order."

The Pharaoh/king therefore assumed responsibility to ensure that order was maintained throughout Egypt. In the ancient Egyptian world, according to the Iunu myth of Creation, the first instance of order occurred when the Creator god Atum rose from the primeval waters and brought original order out of chaos. This godly act of bringing order out of chaos had to be repeated *ad infinitum* by every Pharaoh as a god on earth. Chaos was perceived to be everywhere in the ancient Egyptian world; it lurked on the borders of the ordered world and thus it had to be fathomed and made knowable via its transformation into order, or at least by ensuring that its negative and destructive forces are kept at bay. This enactment of order was an ongoing process and the main responsibility of all Pharaohs, rather than an act that was undertaken once-and-for all. In the ancient Egyptian world view, the state of order was always fragile; thus kingly vigilance was required to maintain it at all times:

> "the Egyptians had a very long perspective on the beginning of time and on its end, but they conceived of order as being insecurely founded. One could see their view as a cosmic analogy of the fragility of any social order, or as tempering the apparently unchanging character of Egyptian order." (Baines, 1991: 125)

This fluid and complex conceptualization of the interrelated concepts of order and disorder in ancient Egypt provide a rich backcloth against which accounting inscriptions seeking to construct, reproduce and reaffirm order could be analyzed. The next section addresses two issues concerning the ancient forms of accounting discussed in this book: how they relate to conceptions of what accounting is in the view of many scholars, and whether their preponderance can be explained.

ANCIENT ACCOUNTING

In seeking to explore and theorize the relationship between accounting and order, numerous ancient Egyptian accounting inscriptions were examined in this book; these covered specific activities within broader domains: myths (Osiris; the Contendings of Horus and Seth; the Day of Judgment); divinity (accounting for the gods); accounting for the state and the public domain; and accounting for the private domain. Whether the focus of investigation was on godly offerings; funerary temples; the palace and its dependants; brewing beer or baking bread; tax assessment and collection; the Pharaoh's dockyards, workshops, and manufactories; mining activities;

transportation of objects; private estates and the household; or private exchange in local markets, the story is the same: an extensive reliance on accounting vocabulary and its quantification and valuation technologies to inscribe and order each of these domains. This leads to two pertinent questions: can the inscriptions examined in this book be genuinely called 'accounting'? Can this preponderance of accounting tell us anything about the contexts in which accounting inscriptions emerge? These two questions are addressed briefly by way of drawing on some examples from the extant literature.

Is This Accounting?[1]

Standard definitions of accounting are likely to rule out the possibility of admitting the inscriptions examined in this book into the domains that accounting is deemed to constitute. One reason for this is that many scholars tend to think of accounting almost exclusively in terms of double entry bookkeeping (DEB), the innovation that has been associated with Luca Paciolo for over five hundred years. Another reason is that much of the Western literature tends to be concerned with documenting the rise and development of accounting within the narrow contexts of gainful trade and capitalism, because DEB has been strongly linked to enhancing economic rationality and supporting the development of capitalism (Sombart, 1979). Even Goethe (cited in Carruthers and Espeland, 1991: 31) claimed that DEB is "amongst the finest inventions of the human mind". Consequently, there has been a regrettable obsession with DEB almost to the exclusion of other forms of accounting, with DEB typically promoted as the ideal and pure form.

Consider, for example, the influential work of Littleton (1981), first published in 1933. In charting the evolution of accounting up to the beginning of the twentieth century, Littleton's concern is with "modern accounting" (ibid: 3) which for him is summed up by DEB, "complete systematic, coordinated account-keeping" (f.n.: 23). He identifies three attributes and several antecedents of bookkeeping. The attributes are duality (of books, of account form, and especially of entry), equilibrium/balance of results (for example, as reflected in the balance-sheet), and proprietorship (ownership of goods handled and claims upon emerging income). These three attributes together, argues Littleton, provide both the form and substance of double-entry:

> "The *form* of complete book-keeping is the duality and equilibrium which derive from early record-keeping precedents, the *substance* consists of proprietary calculations of the gains (or losses) from ventured capital." (ibid: 27)

For Littleton, there are four antecedents of double-entry: capital, money, credit, and commerce:

> "If either property or capital were not present there would be nothing for records to record. Without money, trade would be only barter; without credit, each transaction would be closed at the time; without commerce, the need for financial records would not extend beyond governmental taxes." (ibid: 12)

Littleton's notions of attributes and antecedents focus upon the domain and nature of what counts as accounting. While these attributes/antecedents can be traced in many accounting practices and inscriptions over time, his view is too restrictive. In general, only a few of these "antecedents" and attributes can be said to apply to the inscriptions examined in this book. For example, in the bakery accounts (Chapter 12) equilibrium/balance is evident, and this quality also applies to many other accounting inscriptions that have been analyzed earlier. As we have seen, capital, commerce, profit making, and money as coinage were not characteristic of the highly centralized and bureaucratically administered economy of ancient Egypt, notwithstanding the presence of markets and trade both locally and also at the borders with neighbouring countries where semi-barter exchange took place.

Moreover, Littleton's insistence on DEB as the pure form of accounting serves only to privilege this form at the expense of others (for similarly restrictive views, see Weber, 1978; Sombart, 1979). One, perhaps extreme, example of the danger of being obsessed with contemporary forms of accounting is summed up in the view expressed by Stevelink (1985: 3) who, in examining accounting inscriptions in ancient Egypt and Mesopotamia, focuses upon origins, evolution, progress, and then dismisses the relevance of ancient accounting to contemporary scholarship because it is not based on DEB:

> "Accounting has been kept since time immemorial, but double-entry bookkeeping goes back less than 1,000 years. In the last analysis, it is this system that really interests us, because it would be instructive to examine its origins, to follow its evolution step by step, to identify progress, the path it took, the tentative innovations of our predecessors, the solutions they arrived at."

These problems have prompted some accounting scholars to seek ways of broadening the scope of enquiry. In particular, Miller and Napier (1993) advance the view that we should be concerned with "genealogies of calculations" as a means of expanding the research agenda into accounting history, so that researchers' emphasis can shift from concern with origins of the present to trying to understand the outcomes of the past. This approach has the appeal of focusing upon "the historicity of the various techniques and rationales that have constituted accounting at different times, and in different places" (ibid: 632). Their use of the term "calculation" instead of "accounting" is an attempt "to avoid an a priori limiting of the field of study of accounting as it currently exists, or to a particular accounting technique such as double-entry book-keeping" (ibid: 632).

Some of the ideas of Miller and Napier have parallels in the arguments developed in this book. The concern in this book has been with understanding ancient Egyptian accounting inscriptions as texts embedded in the socio-political, economic and cultural contexts of that time, rather than to postulate or establish an evolutionary link between Egyptian accounting and contemporary accounting. Further, consistent with Miller and Napier, it has been suggested earlier in the book that DEB is a special case, rather than the only worthwhile form and substance, of accounting so that no particular form of accounting is privileged over others. However, to replace "accounting" with "calculation", as Miller and Napier do, runs the serious risk of losing sight of what may be deemed unique and ubiquitous attributes of accounting as distinct from other methods of calculation.[2] Their suggestion that the use of the term "accounting" results in "ruling out or marginalizing practices that do not fall within that domain" (ibid: 632) is not convincing, for they are assuming implicitly that retaining the term "accounting" automatically leads to the emergence of what they call "traditional histories of accounting" which they correctly identify as restrictive, but the preferred approach here is to counteract this tendency by engaging directly with developing alternative, and less restrictive, definitions of accounting.

In contrast to the work of Miller and Napier, Tinker (1985) focuses directly on accounting as a means of providing a valuation of alternatives, of facilitating exchange through the determination of reciprocity, and of adjudicating economic claims (and social relations in general):

> "accounting practice is a means of resolving social conflict, a device for appraising the terms of exchange between social constituencies, and an institutional mechanism for arbitrating, evaluating, and adjudicating."

Tinker lists a number of examples (ibid: 85, 95–97) taken from Mandel (1962, 1968) of entries recording equivalence in labour time dating back to the early and late medieval period in Japan and Europe. For Tinker, these entries, even though not monetized nor in the form of DEB, help "parties to social and economic transactions assess the adequacy of the value of their returns or entitlements" (ibid: 86). Tinker emphasizes the ability of accounting to operate at two levels, individual and social. First, accounting examines alternatives from the perspective of each individual party to an exchange as buyers, sellers, or producers. Second, at the social level, accounting establishes a "rationale for appraising exchange possibilities for the collective parties to an exchange" (ibid: 86). Furthermore, Tinker avoids equating accounting with any specific ideology: "there is nothing inherently and irrevocably conservative, reformist, or radical about accounting practice" (ibid: 82).

While there are important similarities in the manner in which Tinker conceptualizes accounting and how accounting inscriptions are theorized throughout this book, there are some important differences. In particular, I do not share Tinker's apparent insistence that accounting valuation is "only relevant to those social systems in which integration and cooperation have developed enough to enable social members to devote part of their efforts to producing, not for personal consumption, but for a market exchange (i.e., commodity production)" (ibid: 84). This view fails to take into account situations where at the personal level accounting-based valuations are used to document wealth, gift exchange, and household rations, and at the institutional level the numerous situations in which accounting technologies intervene in a variety of state activities as shown throughout this book. The emphasis, rather, has to be on the ability of accounting technologies to name, enumerate, quantify, and value objects and subjects, and in so doing establish modes of reciprocity and order relationships, activities and lives. This brings us back to the working definition of accounting developed by Ezzamel and Hoskin (2002: 335) discussed in Chapter 3 and slightly adapted here: First, accounting is the *practice* of entering in a visible form a written record (an account) of items and activities. Secondly, any account involves a particular kind of *signs* which *name* and/or *count* those items and activities recorded. Thirdly, the practice of producing an account is a from of constructing financial *values* and/or quantifying non-financial activities and managerial actions: (i) *extrinsically* as a means of re-presenting values derived from outside for external purposes, defined as valuable by some other agent; and (ii) *intrinsically* in so far as his practice of naming, counting and recording in visible format constructs the possibility of valuing or quantification. This base-line definition has served the purposes of this book well, although the focus has been upon *inscriptions* rather than practice. It is here offered to the reader to further embellish, or indeed challenge and replace it.

CAN THIS PROLIFERATION OF ANCIENT ACCOUNTING BE EXPLAINED?

The example chosen to address this question is Meyer's (1986) work on the rise of accounting. Meyer is concerned to document the contexts that gave rise to specific forms of accounting, and engaging with his work offers the potential to explore the extent to which the insights drawn so far map onto his ideas. Meyer is one of the few leading sociologists who have sought to explore and theorize the rise of counting and accounting in Western societies. Meyer (ibid: 353) treats "accounting as reflecting the organizationally uncontrolled monetarization of socially invisible value, bookkeeping as reflecting more organizationally controlled and visible value, and other forms of counting as likely to reflect the complexity of entity construction."[3] Meyer (ibid: 351) further contends that when society is in control of its own definition of reality, and is organized around social control and authority we may witness "orgies of counting". Meyer (ibid: 347) understands accounting as "the set of specialized systems for abstracting the monetary value of stocks and exchanges." Focusing upon contemporary Western societies, he argues that an increased use of accounting is related to the expansion of cultural rationalization: "Environments create organizational elements such as accounting and accountants, make it easy and necessary for organizations to use them, and treat organizations that have them as by definition more legitimate than others" (ibid: 346).

Meyer elaborates his argument further by exploring three aspects of cultural rationalizations. First, rationalizations that standardize and "tame the social meaning of the components of activity—actors, objects, and actions" (ibid: 347); these are held to promote greater use of accounting. Second, rationalizations that reduce standardized elements to a common yardstick, such as credit units in universities but more importantly monetarization. Third, rationalizations through causal integration, around notions of exchange or production, that are related to monetarization. Thus, for Meyer, accounting is generated and promoted by "the monetarized organization of means-ends" (ibid: 349).

Evident in Meyer's view is a deterministic tone, whereby the rise of accounting is seen as a response to the demands of cultural rationalization in organizations and society. For him, whenever the status and functions of particular entities, such as individuals or institutions, are delineated through explicit and lawful rationalization and formal rules, the likelihood of accounting expansion becomes very limited. What Meyer has in mind is 'complete organization', complete in the sense of being highly bureaucratized through clear division of labour, a carefully delineated hierarchical control structure, and complete cultural rationalization that is monopolized by the organization itself and inscribed in its formal rule structure (ibid: 350). In such a context, asks Meyer:

> "why would accounting, beyond the most limited record-keeping, be useful? One might find some inspection systems monitoring control, and some simple counting systems keeping track of flows among units in the division of labor. But accounting, with a perspective on reality independent of the legitimate bureaucratic rules, would seem a bit redundant, or even potentially disruptive, since the accounting story and the official one would almost certainly diverge." (ibid: 350)

Although this 'macrosociological' (ibid: 348) explanation valuably suggests that accounting does not emerge only in local contexts that are totally divorced from the macro context, it nonetheless has functionalist tones. In common with much of the thinking in institutional sociology, the environment is privileged over the local context (ibid: 348). Moreover, the existence of accounting is justified only in terms of it being useful, one may ask for whom and from what particular vantage point? Absent in Meyer's thesis is a recognition of the wider roles that accounting plays in organizations and society (Burchell et al., 1980), including being rhetorical (Aho, 1985; Thompson, 1991; Carruthers and Espeland, 1991) and, of special relevance to this book, being a technology of ordering objects, subjects, activities, and the world. As the discussion in various parts of this book would have illustrated, accounting calculations can be a powerful means of ordering the lives of humans and their world. Further, the suggestion that accounting may be marginalized because the accounting story and the official one are likely to diverge seems to be implicitly based on two, related, problematic assumptions. First is the assumption of a definitive and singular story 'the accounting story', thereby ignoring the multiplicity of accounting stories that can be teased out of accounting inscriptions (e.g., Ezzamel and Willmott, 1998). Second, that those who promote the formal story are aware of the ability of accounting to generate the one story that conflicts with the official one that is presumably absent in accounting inscriptions, yet lack the ability to manipulate accounting numbers to produce the story they desire.

Thus, despite its powerful implications, Meyer's theorization of accounting is problematical even in the context of contemporary Western societies. The limits of his theorizing can be made even clearer by drawing on the ancient Egyptian material examined in this book. In contrast to Meyer's insistence on monetization as one of the defining characteristics of accounting, this book has shown that while not monetized, ancient accounting developed common denominators or 'yardsticks', to use Meyer's terminology, in the form of monies of account, such as the *deben*, or the *khar*. These monies of account served to integrate ancient exchange, work, and production activities in ancient Egypt. While it would be presumptuous to suggest that ancient monies of account are capable of reproducing the same wealth consequences that are ascribed to monetization by Meyer, it is nonetheless relevant to argue that a fairly sophisticated accounting technology could emerge in the absence of monetization.

Further, Meyer's thesis on the rise of accounting marginalizes the importance of historical contingency. Rather than being purely the product of cultural rationalization, the genesis of Egyptian accounting goes back to, or even precedes, the genesis of writing (Davies and Friedman, 1998), with both technologies having a constitutive role of the rationalizations that emerged in ancient Egypt post the invention of accounting. Further, with a highly codified system of beliefs, strong social controls, and a powerful central authority, we witness a proliferation of not only counting, contra Meyer, but also of accounting in state institutions, temples, private exchange, business, and the household. The ancient Egyptians constructed seemingly time-invariant definitions of 'reality', in the cosmos, on earth, and in the netherworld, and developed an assemblage of performative rituals, of which accounting was a key part, to order their world. Instead of viewing accounting to be playing a minor role, as Meyer would contend, we encounter major reliance on detailed, highly developed technologies of the accounting craft, and an elevation of its priests, the scribes, to major positions of influence in Egyptian society (Roccati, 1997). Rose coined the terms 'numericized environments' (1991: 691) and 'habitat of numbers' (ibid: 689) to describe the proliferation of numbers in the governance of modern society, but as we have seen from the extensive use of accounting calculations in the case of ancient Egypt these descriptions can to some degree be extended also to ancient civilizations. Finally, ancient Egypt lacked 'market organizations' and significant 'private organizations', the two examples cited by Meyer (1986*:* 351) as evidence of the need for more accounting and accountants because these organizations are not "self-sufficient, or tightly linked to institutional definitions that insulate [them] from reality". Yet, in ancient Egypt we witness a preponderance of accounting inscriptions in state projects, workshops, manufactories, taxation, and temples just as much as in private business and exchange. Once accounting is viewed as a potent performative technology for the construction and preservation of order, a credible argument can be made for the rise of the accounting craft and its scribes in many human societies across time and space. The next section charts out a summary of some possible themes through which the relationship between accounting, order, and performativity can be theorized.

THEORIZING ACCOUNTING: SOME THEMES

As has been evident throughout this book, the approach taken to theorize accounting emphasizes the multifaceted and contingent roles of accounting in constructing, underpinning and reproducing order. In this respect, accounting is viewed as a code of many colours, similar to the qualities of plastic stressed by Barthes (1973: 97) accounting is almost capable of infinite transformations. Perhaps even more dynamically accounting can be likened to a chameleon that not only possesses different skin colours, but is also capable of assuming a particular colour when required. Accounting is an economically 'convenient' technique not dissimilar to what Barthes (ibid: 42, original emphasis) calls 'operation margarine': "What does it matter, *after all*, if margarine is just fat, when it goes further than butter, and costs less?". For like any instrument or institution of order, such as places of worship and the military, accounting may have its critics, its doubters, or those who abhor it; yet, "if it is a little brutal or a little blind, . . . it allows us to live cheaply" (ibid). Compared to other technologies of order, accounting may be thought of as an affordable, or at least less costly, technology of order that has a much broader and deeper reach than the alternatives. This section focuses on exploring the theorizing of accounting as a technology of order by drawing upon a number of specific themes that have been, more or less, engaged with in this book:

- Accounting as a performative ritual;
- Accounting as a myth;
- Accounting as a sign;
- Accounting as a signifier;
- Accounting as a time ordering device;
- Accounting as a spatial ordering device;
- Accounting as violence;
- Accounting as an archive and a cultural memory.

The importance of these themes should be underscored because, compared to other roles of accounting in organizations and society, they have received, at best, scant attention in the literature. Despite the apparent disparity of these roles and the different implications they may yield when used to theorize accounting, there is one underlying theme that connects them strongly: order. As implied, these themes are not exhaustive but should supplement other roles of accounting that have been addressed by previous researchers.

Accounting as a Performative Ritual

The argument was developed in Chapter 3 that accounting inscriptions can be conceptualized as a performative ritual, and this theme was connected later on to many of the accounting inscriptions analyzed in various chapters. It was suggested that, while a functionalist perspective on accounting assumes it to operate as a technology of quantification and valuation that prescribes to the norms of economic rationality, the focus of this book was upon an expanded thesis of the performativity of accounting that extends beyond such a traditional view. Specifically, , accounting is here understood to have the ability to construct several dimensions of the world, in a manner analogous to MacKenzie's (2006b) understanding of the performativity of financial economics and Callon's (1998) analysis of the performativity of economic practice. It was argued that like all texts (a text is retrieved communication), accounting inscriptions are 'speech acts' (Assmann, 2006) or utterances that have performative qualities.

For accounting to be performative, it has to be *doing* something in the manner adumbrated by MacKenzie (2006a; 2006b) following Callon (1998) for finance or economics. The analysis in various parts of this book has sought to identify and articulate those things that accounting *does* or is capable of *doing*. In this respect, the act of inscribing accounting entries is an example of performative ritual (see also Gambling, 1987). This conduct of repeated accounting rituals is performative because it creates and reproduces the orderly world of which it speaks. This orderly construction becomes taken for granted even though the material from which it is produced may itself be considered chaotic and disorderly.

As the rites of inscribing accounting entries become taken for granted (Meyer and Rowan, 1977), accounting also becomes institutionalized and taken for granted. Indeed, accounting inscriptions become endowed with a natural appearance such that they become elevated to the level of myth that embodies the ideals of organizations and society. Accounting constructs an orderly world that begins in accounting books and extends far beyond them into institutions and society more generally and in so doing they conjure up the belief that the representation of orderly bookkeeping mirrors order and coherence in the world. Although the world as experienced or perceived by the scribes may be chaotic and disorderly, the image of order that they impose on the world via accounting inscriptions creates precisely the opposite effect. The order inherent in the way accounting inscriptions are configured in statements of account, in terms of organization, symmetry, balance, and accuracy, prefigures order in the cosmic and worldly domains. In essence, the architecture of accounting is an architecture of order. As a performative technology, accounting inscriptions have the power to shape and order all objects and subjects that come within its orbit.

Ancient Egyptian accounting and administrative inscriptions were drawn upon in this book to demonstrate how accounting can function as a performative ritual. This notion was particularly evident in Chapter 4 when discussing three ancient Egyptian myths: Osiris; the Contendings of Horus and Seth; and the Day of Judgment. It was shown how in these three myths the intervention of accounting inscriptions to a lesser or a greater degree served to quantify and endow these myths with powerful performative effects. In the myth of Osiris, the 42 dismembered parts of the body of Osiris were unearthed, counted, and re-assembled by his wife and sister Isis to signal a return of *Maat* as order. This act of counting became superimposed on the geography of Egypt to signal the unity of 42 nomes into one united country. In the Contendings of Horus and Seth, Djhuty, the god of counting, recordkeeping, and writing, counts and reassembles the pieces of the Eye of Horus that was shattered in combat against Seth, again signalling a return to *Maat*, and this mythical act produces a system of fractions that becomes an indispensable tool for the scribes in accounting for the activities of the various domains of ancient Egypt. In the myth of the Day of Judgment, Djhuty counts the deeds of the deceased and places them onto one side of the heavenly scales against a feather that signifies *Maat* so as to determine the fate of the deceased. That these texts had particularly powerful mythical contents should not make us shy away from extending this theorizing to other domains where mythical elements may not be so clearly apparent. Indeed, it is in those domains of activities where accounting is traditionally understood to be a purely technical, neutral technology of quantification and valuation that perhaps the greatest fruits of theorizing accounting as a performative ritual are to be found. The repeated ritual of inscribing accounts of daily activities becomes taken as a guarantee of the preservation of order, a means of shoring up “wavering uncertainty” (Douglas, 2002: 90); a ritual in whose absence the world is assumed to collapse (Assmann, 2006).

In previous chapters we encountered various examples of how performativity was manifest in the accounting rituals of inscribing activities relating to the living and the dead in ancient Egypt. The detailed recordkeeping of offerings made by the Pharaohs to the gods, the proliferation of inscriptions relating to taxation, the fleet, mining expeditions, provisioning for the palace and its dependants, work organization and determination of rations, and baking and brewing activities where metrics of accounting quantification and valuation were deployed were all intentional rituals of accounting and bookkeeping calculation and valuation that produced a world in which of subjects and objects were ordered and rendered visible. For example, accounting for the baking of hundreds of thousands of loaves of bread classified by type and dilution ratio, as well as the use of awkwardly large fractions to determine the rations of individuals with different ranks on the occupational scale were incidents of an accounting ritual that instilled a belief that everything, no matter how large or small, was calculated and inscribed. This performative ritual also extended to the private domain, in particular in keeping household accounts, accounting for the activities of a farm, or indeed recording private exchange in local markets. In the world of the dead, the ritual of repeated making of offerings for the cult of the dead and the regular accounting for them forged a relationship that bonded the dead and their living agents who were entrusted to oversee the continuation of these offerings.

The idea of performativity has begun to be addressed increasingly in the accounting literature, focusing especially on the extent to which accounting can be performative and the forms of accounting's performativity (Aerts, 1994; Lowe, 2004; Mourtisen, 2006; Andon et al., 2007; Catasús, 2008; Chapello, 2008; Miller, 2008; Ezzamel, 2009; Boedker, 2010; Carter et al., 2010; Skaerbaek and Tryggestad, 2010). This demonstrates that many searchers are beginning to show a keen interest in exploring the link between performativity and accounting. It is hoped that the themes of accounting and performativity examined throughout this book will contribute to this interest as well as suggest further scope for developing this theorizing at a much deeper level that has been attempted here thus far. Indeed, the analysis of accounting performativity attempted in this book raises several news questions that deserve examination. What other forms do the performative rituals of accounting take in other cultures and/or junctures of human history? How do these forms of ritual connect with other forms across space and time? What are the conditions of possibility that underpin the functioning of accounting as a performative ritual? To what extent does the ritual of accounting overlap, underpin, or even runs counter to non-accounting rituals? How do the emerging types of accounting performativity map onto, and possibly extend beyond those identified by MacKenzie (2006a; 2006b)? These are just a few potential research issues that demonstrate the immediacy and potential of studying accounting as a performative ritual.

Accounting as Myth

Cleverly (1973) has already suggested that accounting can function as a form of religious ceremony—a rain dance—and Gambling (1977) has likened accounting practice to witchcraft; both approaches have strong connections with conceptualizing accounting as myth. This book has sought to build on and develop further these important insights. In several places in this book, a number of connections between accounting and myth were made, initially in relation to three ancient Egyptian myths: Osiris, the Contending of Horus and Seth, and the Day of Judgment. It was shown how in each of these myths some notion of counting and/or accounting was an essential component. In other parts of the book a connection was forged between accounting and myth when analyzing accounting inscriptions for activities in the public and private domains of the society of ancient Egypt, where one of the roles of accounting was to function as myth and ceremony, emphasizing taken-for-granted ways of doing things. The literature on myth and mythologies is quite vast, and space limitations inhibit a detailed discussion of it and of its link to accounting. Yet, it is important to reflect, albeit briefly, upon the connection between accounting and myth. This is done here by way of example by drawing on Barthes' (1973) book *Mythologies*, while acknowledging that since its publication much more has been published on this topic. The first two thirds of *Mythologies* contain short pieces where the theme of mythology is traced to all kinds of everyday activities or objects: wrestling matches, films, detergents, striptease, cars, etc. In the last piece, entitled 'Myth Today', Barthes draws things together theoretically, and it is this part that is engaged with here more explicitly.

For Barthes, myth is a type of speech, a system of communication, a message. But it is a kind of speech in a broad sense: "It is therefore by no means confined to oral speech. It can consist of writing or of representations; not only written discourse, but also photography, cinema. Reporting, sport, shows, publicity, all these can serve as a support to mythical speech" (ibid: 110). Barthes emphasizes another important characteristic of myth; it plays two roles: "it points out and it notifies, it makes us understand something and it imposes it upon us" (ibid: 117). The intention of myth is never to hide things, but rather to distort and naturalise them, for myth is "neither a lie nor a confession: it is an inflexion" (ibid: 129). In this context Baudrillard (1981: 147) argues that it is not the effects of mythic contents that bond members of a society together, rather "these myths make up a code of signs that exchange among themselves, integrating the group through the very process of their circulation."

These attributes that Barthes endows myth with are present, more or less, in accounting. For the kinds of accounting we have encountered throughout this book are types of mythical speech, in this case writing and reporting of re-presentations, or indeed reconstructions, of objects and subjects via the special vocabulary of accounting and its quantification and valuation technologies. In doing so, accounting inscriptions become a system of communication, an ensemble of messages that convey 'information' about the objects and subjects it inscribes and quantifies. The messages constructed and communicated by accounting, such as reporting on human performance or private exchange of goods in local markets, become an important means of understanding objects and subjects, of evaluating them, of ranking and ordering them, of assessing their potential, and ultimately of acting upon them. These accounting messages are also imposed upon all: they are imposed upon those who design and apply accounting technologies to measure, quantify and inscribe, for in inscribing others we also inscribe ourselves. As we have seen in the case of ancient Egypt, accounting inscriptions spatially and temporally anchor the objects and subjects they purport to measure, and become an important means by which superiors engage and order these objects and subjects. Accounting as myth is also imposed upon the subjects inscribed by its technologies, for the individual's sense of self and own identity becomes strongly tied to how s/he has been inscribed by accounting (Roberts, 1991).

While accounting can mask or hide things, for what accounting does not measure or quantify remains in the main invisible (Morgan and Willmott, 1993) and this represents some departure from myth, what it measures and reports is a distortion, an inflexion, that naturalises objects and subjects. It is a distortion in the sense that no matter how well developed accounting technologies are, the phenomena they measure, quantify and construct can never fully re-present all the dimensions or attributes that are accorded to these objects and subjects, nor can they re-present fully any of these dimensions. Accounting is also an inflexion because in order for its technologies of measurement, evaluation and inscription to be engaged, an object or a subject is reduced to an abstraction that obeys the accounting logic. As myth, accounting is therefore neither a lie nor a confession, but an inflexion. The power of accounting as inflexion lies in its ability to naturalize its inscriptions, and as a consequence endow them with acceptability and wide-recognition. What Barthes (ibid: 131) observes of myth holds true for accounting: "myth is experienced as innocent speech: not because its intentions are hidden—if they were hidden, they could not be efficacious—but because they are naturalized." Similarly, accounting inscriptions, whether or not understood by those subjects who come within the accounting orbit, become institutionalized and taken for granted and hence naturalized in organizations and society. Accounting rules are not hidden, although their comprehension may elude those not schooled in them; accounting is typically presented as a technical neutral technology, and therefore can be understood to be endowed with the innocence of objective techniques, and the institutionalization of accounting as an everyday phenomenon in every walk of life underscores its projection as innocent, because its institutionalization frequently compels an avoidance of questioning its legitimacy and neutrality.

These preliminary reflections on theorizing accounting as myth serve to underscore a potentially rich vein of research for future scholars. A key limitation, however, is the exclusive focus on only one piece of work, that of Barthes. No doubt, a more thorough, systematic, and up-to-date exploration of this research theme holds the promise of yielding powerful insights on the theorizing of accounting. How does accounting as myth interrelate with, inter-penetrate, support, or conflict with other myths in society is an important research topic for scholars to explore in the future. Further, conceptualizing accounting as myth has immediate implications for constructing accounting as a sign system. A preliminary set of remarks are made in this regard; these statements connect with the intervention made by Baudrillard, noted earlier, in which he underscores the point that myths make up codes of signs that integrate groups via their circulation.

Accounting as a Sign

Earlier, a working definition of accounting (Ezzamel and Hoskin, 2002) was suggested which emphasizes a number of specific attributes of accounting: being a *practice* that visibly records items and activities; a *sign* that both names and counts items recorded; and finally a form of *valuing*. The focus now is on the second attribute; that of accounting as a sign system. In the Saussurean system (1974), the word is the sign that connects the signifier and the signified.

For example, consider one of the inscriptions we encountered throughout this book in which accounting named and counted objects such as bundles of flax, loaves of bread, bricks, stones, metals, foodstuffs, and so on; Table 15.1 uses one such example: ox. Here, in naming, counting, and valuing accounting is part of a language system whereby functioning as a sign it

Table 15.1 Accounting as a Sign (Language)]\

1. Signifier (Name of animal exchanged as Ox, with it being amenable to naming, quantification and valuation)	2. Signified ('Ox')
3. Sign (global signification: accounting inscriptions naming ('ox'), quantifying ox (one) and valuing it (60 *deben*) according to *Maat*: (balance; equivalence; reciprocity)	

connects the signifier to the signified. As a sign, accounting imparts meaning to activities, objects and subjects. The activity, object, or subject named is the signified, which before it had been named, counted and/or valued had no clear meaning. The signifier is the recognition that here are activities, objects, and subjects that are amenable to naming, quantifying, and valuing. As a sign, accounting performs the act of naming, counting, and valuing; it therefore intervenes between the signifier and the signified and endows the latter with an unambiguous meaning. In Table 15.1, accounting as sign provides global signification in that neither the ox nor its naming/quantification/valuation is given separately; rather they are connected together via this accounting sign. This accounting sign converts the connection between the signifier and the signified into a comprehensible meaning, so, for example, naming the ox as ox and valuing it at say 60 *deben* constructs a specific kind of knowledge about the ox and its value, and this knowledge which is drawn from past activities or transactions, thanks to its mobility, travels into the future, imparting a kind of order on things. This order becomes possible because the accounting sign unambiguously informs us that here is an object named ox valued at 60 *deben* that has been part of an economic exchange between two named parties to the transaction, at a given point in time and in a given location: a conscious archive, a rich history, and a connective memory are therefore incorporated into this parsimonious accounting sign.

The sign is the visible expression of the connection between the signifier and the signified. As a sign, accounting thus becomes the expression of how the signifier and the signified are connected. This accounting intervention between the signifier and the signified allows for a particular understanding of the signified to be developed, premised upon the connection with the signifier forged by accounting inscriptions. Of course, like any language system, accounting language may undergo change over time and hence the connection between the signifier and the signified may change, but nonetheless, accounting inscriptions remain the means through which both the signifier and signified are connected.

This discussion is meant to be illustrative of how accounting could be theorized as a sign drawing on Sassure's original insights. Much work has since been done to embellish and develop Sassure's work and this offers even greater scope for scholars to explore further the implications for theorizing accounting as a sign. For example, Benveniste (1973) has raised the issue of the arbitrariness of the sign; that is, a specific sign, and not any other sign, is applied to a certain element or object, but not to any other; this arbitrariness is grounded in the discretion which determines the exact correlation between the signifier and the signified. Baudrillard (1981) goes further by proposing a critique of the political economy of the sign. He extends Marx's critique of exchange value to the field of signification by drawing on exchange value and use value: "Since the commodity comprises exchange value and use value, its total analysis must encompass the two sides of the system. Similarly, the sign is at once signifier and signified: and so the analysis of the sign must be established on two levels" (ibid: 143). To engage with Benveniste's and Baudrillard's work on the sign is beyond the scope of this chapter, but the key point is that the implications of these developments to Sassure's original insights for the theorizing of accounting as a sign have hardly been considered. Extending Benveniste's ideas concerning the arbitrariness of the sign to accounting and articulating what such arbitrariness entails holds much promise for the further theorizing of accounting. Similarly, drawing on Baudrillard, critiquing the political economy of the sign in relation to accounting and excavating its exchange value and value in use could provide fruitful avenues for theorizing accounting. Macintosh, Shearer, Thornton, and Welker (2000), drawing on Baudrillard (1994), usefully explored the historical transformation of the accounting signs of income and capital.

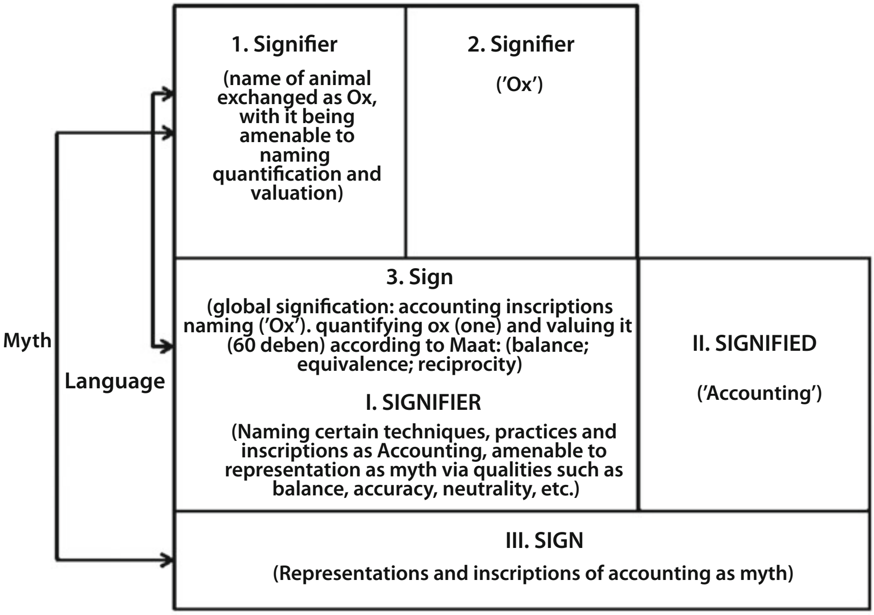
Further research of this type, as well as using other theoretical perspectives, is urgently needed. One of the important things that this research has achieved thus far is to demonstrate the enormous potential for exploring the theoretical links between accounting and sign systems. What alternative theoretical avenues are there for developing the relationship between accounting and signs? How does the relationship between accounting and sign shift over time and across space? What are the conditions of possibility for specific theoretical relationships between accounting and signs to emerge? What relationships exist between the different accounting signs that could be forged? What further insights than what we already know can be gained from theorizing accounting as a sign system? How does conceptualizing accounting as sign impact our understanding of the roles of accounting in organizations and society? This discussion suggests that conceptualizing accounting as a sign system is at a very early stage of development, and that addressing the questions mentioned above, no doubt in addition to numerous other questions, would enhance significantly our understanding of the theoretical relationship between accounting and sign systems.

Accounting as a Signifier

Moving on from the conceptualization of accounting as a sign, the discussion now turns to considering how accounting can be transformed from a sign into a signifier. Following Barthes (1973), this comes about from theorizing accounting as myth. Table 15.2 has been adapted from Barthes (ibid: 115) whereby the possible shift of accounting from a sign to a signifier can be demonstrated.

For Barthes, myth, like accounting, is a second-order semiological system, because it is constructed from a semiological system that pre-existed it. Thus, the sign that emerges from the interaction between the signifier and the

Table 15.2 Accounting as a Signifier (Myth)



Myth
Language
1. Signifier
(name of animal exchanged as Ox, with it being amenable to naming quantification and valuation)
2. Signifier
('Ox')
3. Sign
(global signification: accounting inscriptions naming ('Ox'). quantifying ox (one) and valuing it (60 deben) according to Maat: (balance; equivalence; reciprocity)
I. SIGNIFIER
(Naming certain techniques, practices and inscriptions as Accounting, amenable to representation as myth via qualities such as balance, accuracy, neutrality, etc.)
II. SIGNIFIED
('Accounting')
III. SIGN
(Representations and inscriptions of accounting as myth)

signified in the first order semiological system (language) becomes a signifier in the second-order semiological system (myth). As soon as accounting lends itself to myth, accounting is transformed from being a global sign (3. Sign in Table 15.2) into a language-object and a signifier (I. *SIGNIFIER* in Table 15.2), thus accounting inscriptions become a language or raw material. In this context, accounting, like myth, plays the role of a double agent: it is a sign, yielding meaning as the final term of the linguistic system, and it is also a signifier, providing signification as the first term of the mythical system (ibid: 116–117). The reason for such transformation is that accounting as a sign in the presence of myth becomes ambiguous because in myth the signifier has already been constituted by the signs of the language system; thus in myth accounting as sign and meaning has to be transformed into a signifier or form.

Once it gets hold of a sign with a clear meaning, myth transforms the sign into an "empty parasitical form" (ibid: 117). As it is transformed from a linguistic sign to a mythical signifier the accounting sign, say of naming and valuing an ox, becomes a mere form, an empty container devoid of history whereby meaning becomes impoverished, rather than suppressed. As Barthes (ibid: 118) argues:

> "One believes that the meaning is going to die, but it is a death with reprieve; the meaning loses its value, but keeps its life, from which the form of the myth will draw its nourishment. The meaning will be for

> the form like an instantaneous reserve of history, a tamed richness, which it is possible to call and dismiss in a sort of rapid alteration: the form must constantly be able to be rooted again in the meaning and to get there what nature it needs for its nutriment; above all it must be able to hide there. It is this game of hide-and-seek between the meaning and the form which defines myth."

In the example of the accounting inscription that named and valued an ox, once we are in the realm of accounting as myth this sign becomes distanced from its clear meaning and history of the transaction that culminated in the sign. Instead, we have a signifier concerning the ability of accounting to impart objective and concrete names and measures or values on objects and subjects. Such claims to exactness, objectivity, and faithful representations of reality become the basic stuff via which accounting is converted into a myth. The mythical signifier (*I. SIGNIFIER*) has been constituted through the linguistic sign (3. Sign) with a meaning that has already been produced in linguistic semiotics. So in the case of the exchange of a particular ox, it has a meaning contextualized by the history, location, time, and subjects involved in this unique transaction, but as it travels beyond this specific transaction it becomes an abstraction, an empty form (e.g., an ox valued at 60 *deben*) devoid of history and with an impoverished meaning; it simply becomes no more than a price statistic.

Accounting as a form, as a signifier following its transformation into myth, is connected to a new signified (II. SIGNIFIED) via a new sign (III. SIGN). The new signified is the ability of accounting inscriptions to constitute and construct, rather than to objectively and faithfully represent or capture, objects and subjects; it is a concept that emphasizes the constitutive power of accounting inscriptions and their ability to order the world. Further, as a mythical signified, the power of accounting inscriptions to order the world can be connected not only to one signifier, what may be traditionally taken as the faithful representation of a seemingly objective reality that was chosen here as an example, but also to a host of other signifiers; for example, wealth creation and fairness. The sign in myth (III. SIGN) is the visible, durable expression of the link between the signifier and the signified; the sign in this case is what people understand and consume as myth for the sign becomes the signification of myth.

As myth of course accounting can take on different forms: a taken for granted institutionalized practice that establishes the organization as "appropriate, rational and modern" (Meyer and Rowan, 1977: 344); a rain dance (Cleverly, 1973); a form of magic (Gambling, 1977, 1985), and so on. Each of these possibilities in which accounting may be considered a myth requires particular signifiers that are likely to vary according to which version of accounting as myth is proposed, and the correlation between such a signifier (or multiple signifiers) and accounting is the sign. As the signifier is empty, it accommodates accounting as something that is amenable to being named and accounted for as myth. The sign, that is, the interaction between the signifier and the signified in this particular case, is the form of representation in which accounting is consumed as myth: as a rain dance, as a taken for granted institutionalized practice, or as magic, and so forth.

Like all kinds of myth, accounting imparts naturalness to objects, subjects, the world. Virtually everything that Barthes (ibid: 143) ascribes to myth applies to accounting:

> "Myth does not deny things, on the contrary, it functions to talk about them; simply it purifies them, it makes them innocent, it gives them a natural and eternal justification, it gives them a clarity which is not that of an explanation but that of a statement of fact. . . . [myth] abolishes the complexity of human acts, it gives them the simplicity of essences, it does away with all dialectics, with any going back beyond what is immediately visible, it organizes a world which is without contradictions because it is without depth".

In this quote, many attributes of accounting as myth are evident: accounting constructs things (the subjects and objects of its quantification, valuation, and inscription), is a type of speech, and an indelible archive for them; it detaches things from their context and endows them with the aura of neutrality and innocence; it gives them the appearance of objective facts; and it orders the world while masking or seemingly nullifying contradictions. Like myth, accounting imposes order on the world and in so doing it immobilizes the world by converting its dynamic and uncertain properties into apparently stable ones: "For the very end of myths is to immobilize the world: they must suggest and mimic a universal order which has fixated once and for all the hierarchy of possessions" (ibid: 155). And, again like myth, accounting achieves all that economically, just like operation margarine, by converting qualities (such as tasty bread or patient care) into quantities (such as baking dilution ratio or cost of medical treatment): "By reducing any quality to quantity, myth economizes intelligence: it understands reality more cheaply" (ibid: 153), or rather it constructs reality more cheaply.

In drawing on Barthes (1973) it was not the intention to advocate his approach as the one most appropriate to theorize the relationship between accounting and order by invoking the notions of accounting as myth, sign, and signifier. Nor was it meant to be an unqualified endorsement of the work of Barthes, brilliant as it may be, for his work has its admirers and critics. Rather, the intention was to demonstrate the theoretical *possibilities* that are there once we begin to think of accounting as myth, sign, and signifier, no matter what views one holds of these concepts. Other work on signs and myth is likely to yield more intriguing insights for the theorizing accounting as a signifier.

Accounting as a Time Ordering Device

More recently, accounting researchers have begun to explore the connection between time and accounting, particularly following the increasing interest of sociologists over the last three decades in studying time (Giddens, 1981; Adam, 1990; Elias, 1993). Accounting researchers have been particularly concerned to explore the extent to which accounting time (for example, the periodicity of accounting reports, budget meetings, time-bound targets and the temporality of comparisons between targets and actual achievements) shapes, disciplines and impacts human experience at work (Ezzamel and Robson, 1995). These studies have gone some way towards enriching the theorizing of the relationship between accounting and time, but the focus has been predominantly upon clock time and occasionally on how humans *experience* clock time. Several similar strands have been explored earlier in the inscriptions dealing with day-to-day accounting for activities in the bakeries, royal manufactories and workshops, taxation, temples, fleets, mining expeditions, and the palace; all being parts of the institutions of the state, and also in private exchange as evidenced from the transactions conducted in Deir El-Medina, agricultural estates, and the household. The primary focus in these parts of the book, however, has been upon how accounting inscriptions operated as temporal ordering devices by anchoring accounting inscriptions in specific days, months, seasons, and reigns of the ruling Pharaohs by drawing upon the ancient Egyptian notion of 'historical' time, that is linear or cyclical time.

These accounting inscriptions that are temporally anchored by the linear conception of time play a crucial role as a communication device in society across time. They do so by virtue of their temporal connectivity: accounting inscriptions travel through time, and so it becomes possible for comparisons across time to be made of what kinds of activities were considered worthy of bookkeeping, what enumeration and valuation methods were used to record them, what kinds of accounting books were kept and how they were organized, what systems of human accountability were used, and so on. It is precisely this property of the connectivity of accounting inscriptions across time that made it possible for this book to be written. In so doing, different ancient Egyptian societies that existed across vastly different historical episodes are brought into an immediate contact with each other, whereby a powerful bond is forged between peoples, a bond that brings humanity together.

Whilst theorizing the linkages between accounting and calendarical time and the way humans experience it is a worthwhile project, the ancient Egyptian material has revealed other important concepts of time. Not only did the ancient Egyptian concepts of time include linear, historical calendar-based time, and cyclical time, but they also brought to our attention two fundamentally novel conceptions of sacred time: *neheh* (dynamism, continuity; imperfectivity) and *djet* (static, lasting Everness; perfectivity).

Chapter 4 explored how accounting ordered sacred time in ancient Egypt, the first manifestation of which was the counting of the parts of the dismembered body of Osiris by his wife Isis, the Contendings of Horus and Seth, and the counting of the parts of the Eye of Horus by the god of record keeping Djhuty, and the counting/accounting by Djhuty of personal deeds of the dead in the myth of the Day of Judgment.

While the ancient Egyptian material on the connection between accounting and sacred time is intriguing, the lack of detail on accounting inscriptions limited the scope of theorizing their relationship with sacred time and how this impacted order. Despite this limitation, it was still possible to argue that the connection between accounting and sacred time first endows accounting with a divine dimension, and second demonstrates how accounting inscriptions from their inception contributed to an articulation of sacred time via its technologies of counting and quantification. Take, for example, the Contendings of Horus and Seth, with the image of Djhuty, the god of record keeping, time and writing, counting, and accounting for the fractions that made up the Eye of Horus. This act offers a lasting impression of a god accounting for the Eye of Horus on behalf of all other gods, and is suggestive of a strong connection between accounting and divinity. Similarly, consider Djhuty in the myth of the Day of Judgment weighing the deeds of the deceased, as recorded/constructed in his master ledger via his ways of accounting symbolized by the heart of the deceased, against order itself in the form of the feather representing the goddess *Maat* on the divine scales. In these contexts, accounting is shown to have a divine dimension, and a utility that is acknowledged by the gods. These are powerful insights which can be developed further by future researchers who might have access to more detailed material from other cultures on sacred time and accounting.

The connection between accounting, *neheh* and *djet* was articulated further when examining accounting inscriptions relating to offerings made by the Pharaohs to the gods. Inscribing (naming, counting, and valuing) offerings to the gods served to ensure the salvation of the Pharaohs in *neheh* (continuity) time and their immortality in *djet* (lasting Everness) time. The accounting inscriptions of offerings named the individual Pharaoh in his dedication to the gods, temporally embedded the offerings, rendered them visible in their items, numbers, volumes and values, and underscored their recurrence (repeated offerings; *neheh*) and permanence and durability (Eternity; *djet*), thereby serving to demonstrate that the Pharaoh has done *Maat* and thus preserved order. In this context, *Maat* signified a kind of moral calculus, made visible via the intervention of accounting, indicating a particular type of reciprocity: gods protect Egypt in return for kingly offerings. These inscriptions also legitimized kingship as an indispensable institution for maintaining order in Egypt.

The theorizing offered in this book of the relationship between accounting and time is but a brief sketch; a mere scratch on an enormous surface.

As Hall (1973: 19) notes, "time is meshed with many other aspects of society" and thus it is imperative that our understanding of time and its connection to accounting will be greatly enriched by studying time in different societies. So, what other conceptions of sacred time, other than *neheh* and *djet* are there in other histories? What roles does accounting play in constructing and reproducing these concepts? How do these roles of accounting connect with other roles theorized in the extant literature? Why is accounting called upon to help articulate and underpin these time concepts? Similarly, what notions of historical time are there in cultures other than those of the West which have been the focus of previous accounting research? To give one example, consider the case of the Hopi Indians. According to Hall, (ibid: 146), "Time, for example, is not a duration but many different things for them. It is not fixed or measurable as we think of it, nor is it a quantity. It is what happens when the corn measures or a sheep grows up—a characteristic sequence of events. It is the natural process that takes place while living substance acts out its life drama. Therefore, there is a different time for everything which can be altered by circumstances." In studying this notion of time, what connections, if any, are there with accounting? If time cannot be quantified, or measured, is there a role for accounting there? Or can some notion of accounting be linked to a concept of time without duration that is entirely dependent upon a sequence of events? If so, what kinds of sequence and what types of events should be considered? Addressing these, and similar issues, has the potential to enhance considerably our efforts to theorize the relationship between accounting, time, and order.

Accounting as a Spatial Ordering Device

Theorizing the relationship between accounting and space in the extant literature is extremely sparse. Studies that have explored this relationship have concentrated upon work space either in contemporary settings (Miller and O'Leary, 1994; Ezzamel, Willmott, and Worthington, 2004), the manufactories of the past (Carmona, Ezzamel, and Guttiérrez (2002), or public space (Rose, 1991; Neu, 2006). In examining this relationship, attention has focused upon how, through the intervention of accounting, space is constructed and rendered calculable, work space is organized, and human bodies rendered mobile fragments of calculable space, and how accounting calculations facilitate management at a distance (Robson, 1991). These studies reveal several interesting insights concerning how accounting and space interact and what roles accounting might play in this connection. They have also alerted us to the need to probe deeper into the theoretical linkages that could be forged between accounting and space.

Yet, just as is the case with time, the ancient Egyptian material opens up a new scope for theorizing the relationship between accounting and space. In the main, previous studies have focused upon conceptions of space 'of this world', in contrast to notions of sacred space. In ancient Egypt, notions of time and space were interconnected, and space signified the three realms of the ancient Egyptian world: the cosmos, the earth, and the netherworld. The most obvious link between space and accounting occurs in the Osiris myth, where the 42 parts of the body of Osiris were reclaimed from the 42 nomes of Egypt where they had been buried by his killer and brother Seth, counted and re-membered by his wife Isis into a full body of Osiris. Here, counting and accounting for Osiris' body by Isis takes place not only over time but also across space (the 42 nomes of ancient Egypt). Similarly, the deeds (or the debits and credits) of the deceased that are counted, inscribed, and then weighed on the scales against *Maat* by Djhuty in the myth of the Day of Judgment are spatially embedded in terms of where they had been performed, then brought to the space where the ultimate judgment was pronounced. Further, the body of the deceased became a space upon which the judgment was inscribed, in terms of eternal salvation or immediate annihilation, as the product of Djhuty's accounting and recordkeeping of the deeds of the deceased.

In studying space in physics, a distinction is typically made between 'inner space' and 'outer space' (Barrow, 1999). The analysis in this book has shown that this distinction is relevant to theorizing the relationship between accounting and space. In earlier chapters it was suggested that temple walls offered themselves as a writing surface for accounting inscriptions, and that accounting both inscribed and ordered the inner and outer space of the temples. Accounting inscriptions on temple walls became a kind of monumental discourse that rendered temple space, be it sacred or secular, calculable, and hence knowable and orderable. Similarly, in accounting for the activities of the fleet, as the load carried by each ship was quantified via the accounting calculus, each ship was converted into a set of quantitative measures as the resulting calculus became an expression of the ship itself and a measure of its carrying capacity in terms of physical space. For only through the intervention of accounting technologies of naming, counting, and valuing can space be made amenable to reconfiguration and reordering, and hence can space be rendered meaningful and manageable. It was also suggested that in the context of ancient human accountability, subjects were inscribed in accounting books in relation to such things as recording achievement against work targets, absence from and presence at work, calculation of tax levies, and determination and allocation of rations. Thus, human identities were constructed via these accounting inscriptions and, further, human bodies became malleable spaces upon which accounting measures were articulated. This discussion therefore underscores the diversity of the notion of physical space, and it is hoped that future research can articulate and develop this diversity further.

Similar to the case with time, as accounting inscriptions are spatially anchored, they also act as communication devices across space and they promote a notion of connectivity between human societies occupying different spatial locations. For as accounting inscriptions have a mobility that traverses space, seemingly disparate societies are brought together and bonded into a shared human experience. This mobility of accounting inscriptions, even in the case of those engraved onto the surface of stone or pottery sherds, makes possible a whole series of comparisons of the activities, objects, and subjects that they name, count, and value in a particular spatial location. While such mobility may have been rather restricted in ancient times, developments in printing and more recently in information technology and the rise of the Internet have enhanced the circulation of these inscriptions across the globe. More research on these physical conceptions of space could interrogate the relationship between accounting technologies and the aesthetics of space and how the everyday experience of space might be enjoyed (de Botton, 2007).

So far, the discussion has been concerned with how the relationship between accounting and *physical* space could be theorized more adequately by incorporating conceptions of space that have not received much attention in the extant literature. This theorizing can be developed further if we extend the notion of space to incorporate social space (Bourdieu, 1985, 1989). Allusions to the connection between accounting and social space were made in a few places in this book, in particular in arguing that accounting intervenes in the space between the two parties to a transaction, such as the semi-barter exchanges that took place in Deir El-Medina (Chapter 14), to order the relationship between them and in the process almost marginalize the objects exchanged and replace them with accounting valuation. Similarly, the rations allocated among Hekanakhte's household (Chapter 13), and the rations assigned to labour, scribes, and priests (Chapter 11) helped to visualize and underscore the social status and standing of each individual. What these insights suggest is that more explicit theorizing of the connection between social space and accounting is urgently needed. Carmona and Ezzamel (2009) have explored some of these possibilities, including the relationship between accounting technologies and cognitive spacing, moral spacing, and aesthetic spacing, but theorizing the role of accounting in these domains remains at an embryonic stage. Further, while a distinction has been drawn here between time and space, this has been done purely for convenience of presentation. One of the valuable insights to emerge from examining the ancient Egyptian inscriptions is how artificial the distinction between time and space is. For the ancient Egyptians, time and space were strongly intertwined, and the two words designating time and space in Egyptian had the same determinative, and indeed Djhuty was the god of recordkeeping, time and space. This strong connection between time and space suggests that neither concept can be meaningful without the other. The traditional understanding that time has to do with history and space has to do with geography if taken literally can result in a at best a partial, and at worst a misleading, understanding of time and space.

Accounting as Violence

Violence has been an important theme in the earlier discussion of order; both order and violence go hand in hand, for the assertion of order entails an exercize in violence however the latter may be defined. A main concern thus is to explore the notion of accounting as a form of violence in the context of securing and/or reasserting order. Some comments pointing to this link have been made in various parts of this book. For example, in the myth of the Day of Judgment, the weighing of the debits and credits of the deceased against *Maat* by the god Djhuty is a form of violence: in the quantification and naming of her/his deeds, the entire life of the deceased is exposed and made transparent at the moment of judgment. Not only this, but also if the deeds of the deceased were found to be wanting, s/he is immediately annihilated by the formidable looking animal eagerly waiting in anticipation close to the scales. This graphic violence is visited upon the deceased thanks to the intervention of the patron of the scribes, the god Djhuty, and the inscribed account of the deeds of the deceased recorded in his master ledger. More examples of how accounting functions as violence discussed earlier include the regular measurement of human performance and its comparison against targets, the reporting of performance that falls below targets, and the punitive measures taken against those responsible for what is constituted in the accounts as recalcitrant behaviour. The regular reporting on work progress in state institutions, such as the temples, workshops, bakeries and state projects, and the pay lists indicating the precise rations for each individual according to his/her rank that construct the standing of each person in the family and in society more generally are all instances of accounting violence, for they visualize the competence, worth, and official/social rank of each individual.

Accounting has frequently been viewed as an invidious technology that objectifies not only time and space but importantly humans and subjects them to a battery of its methods of quantification that frequently fail to reflect what is deemed to be the ‘real’ contribution and value of a human being. Qualities that may not be susceptible to accounting quantification are nonetheless converted into numbers that are then taken to represent performance. These arguments have also been heightened further by the fact that accounting quantification entails the production of numbers, and there has been increasing concerns in society at large with the ‘tyranny’ of numbers because they intervene in and condition many domains of contemporary life that were previously more immune to them (Boyle, 2000).

Accounting technologies have now invaded almost all aspects of contemporary life, as evidenced not only in the familiar measures employed in private corporations, but also in their extension to arenas that have for decades been almost free of their intervention: public hospitals, state schools, universities, government departments, local government agencies, political institutions, and charities. Once considered as an ordering technology, a technology that constructs, underpins, reproduces, and reasserts order, it becomes easier to explain the extended reach of accounting technologies into those domains where they were almost completely absent previously. If anything, the material from ancient Egypt examined in this book testifies to exactly this argument; for accounting was evident in almost every facet of the ancient Egyptian world: the cosmos, earth, and the netherworld. In all these domains, accounting violence was evident; it was a violence that sought to ensure that *Maat* as order was maintained throughout. To avoid, or at least minimize, the risk of disorder occurring, accounting technologies intervened into the domains of the sacred and the secular, as seemingly no domain was spared such intervention. Whenever order was disrupted, accounting was called upon to transform, or reconstruct, what was construed as chaos into order. For example, the disorder witnessed in the disputes between the inhabitants of Deir El-Medina in the context of their private exchange (Chapter 14), some of which culminating in law suits, was resolved by observing reciprocity as constituted by accounting calculations of equivalent values. Similarly, in the case of the strikes of the community workers of Deir El-Medina (Chapter 11), the accounting craft and its practitioner the necropolis scribe were heavily involved in ensuring a return to order, albeit with new configurations of power relations compared to those that prevailed prior to the conflict.

The notion of violence discussed here needs to be differentiated from other, seemingly similar, concepts in the extant literature. This notion of violence is not to be equated with previous literature that explored the role of accounting techniques as disciplinary technologies which produce both positive and negative consequences, although of course there is some overlap between the two concepts. The concern here is to emphasize the overt and covert instances in which accounting operates as a means of inflicting unwanted and undesirable consequences on individuals or populations who may or may not be aware of these consequences. Violence as conceptualized here has some affinities with, but also differences from, Bourdieu's (1977, 1992) treatment of symbolic violence. For Bourdieu (1977: 192), symbolic violence is "the gentle, invisible form of violence, which is never recognized as such, and is not so much undergone as chosen". This is the kind of accounting as violence that has been proposed in various parts of this book, being manifest in such things as lists of rations that differentiate pay according the rank of the individual, in which case it shares the attributes of being silent, gentle, and chosen while not necessarily being recognized as violence. But it differs in that it is visualized by virtue of being inscribed in accounting lists of rations, at least for those who can read the lists. Symbolic violence is a most insidious form of intimidation because it acts on the individual "below the level of consciousness" (Bourdieu, 1992: 52), and also because there is "a misrecognition of the violence that is exercised through it" (ibid: 209), for the disclosure of the rank or position of the individual on a ration list only serves to put those on the lower rungs of the pay ladder in their lowly place without these individuals necessarily being explicitly aware of the effects of their position or at the very least questioning their positions. And as Bourdieu (1977: 192) notes, this symbolic violence is "the most economical mode of domination". As noted earlier, this form of symbolic violence works simultaneously with the more familiar form of explicit violence based on accounting inscriptions whereby failure to achieve expected targets is measured, reported, visualized, and acted upon via the exercise of punitive sanctions.

These sketches of how accounting operates as a form of violence intertwined with securing or affirming order demonstrate just how rich these theorizing possibilities are. Setting aside any value judgments concerning the desirability or otherwise of accounting performing this role, connecting accounting as violence to order opens up the space for pursuing new possibilities to further the project of theorizing accounting. This emphasis is not intended to negate or marginalize the numerous scenarios in which accounting produces positive and desirable consequences; rather the intention is to suggest that, in particular, the covert forms of violence that accounting produces require further attention from future researchers.

Accounting as an Archive and a Cultural Memory

Earlier (Chapter 3), the analysis drew on Assmann's (2006) discussion of sacred and cultural texts and the implication of this for the theorizing of accounting inscriptions as cultural texts. In the case of ancient Egypt, the accounting inscriptions that could be said to be strictly classified as 'sacred' texts were those inscriptions in the hand of Djhuty, the god of writing, record keeping, counting, time, and space. These sacred accounting texts are those specifically related to the myths of the Contendings of Horus and Seth and the Day of Judgment. For Assmann (ibid), in such sacred texts rituals are an essential element and the sacred texts are performative speech acts par excellence as these texts do not simply refer to a meaning but rather create it; they are performative in the strong sense identified by MacKenzie (2006b). Accounting inscriptions as sacred texts are intended to be exclusive, secretive and ritualistic, and they must be spoken or inscribed by the right person, in the right place, and the right time. The question over performativity is then raised concerning accounting inscriptions that cannot be considered sacred. Assmann (2006) suggests that canonical texts can be treated as sacred texts because both demand to be put into practice and hence they are performative.

It has been suggested earlier in this book that accounting inscriptions can be conceptualized as canonical texts exuding textual coherence stored or communicated via reproduced texts (Assmann, 2006) in a regulated and systematized manner just like literary texts (Said, 1991). It was argued in Chapter 3 that from ancient history to the present time, scribes and accountants are schooled in how items and activities to be recorded should be enumerated, valued, and inscribed. These scribes also acquire hands on expertise from their day-to-day experience in how books of account could be best organized. What Said (1991: 145) has observed in the case of literary texts applies to accounting texts in that they are "instances of regulated, systematized production, as if the human agencies involved were irrelevant." Thus, in the case of many of the ancient Egyptian accounts examined in this book, even when expert Egyptologists may occasionally be able to identify the scribes in whose hands a particular account was inscribed from the style of writing, the way the accounts were designed and inscribed look essentially the same as accounts inscribed by other scribes, even those who lived in other eras. The ancient scribes were the representatives, or better constructors, of an ordered Egyptian society, and the accounting inscriptions they produced were governed by the cannons of the discursive field in which they functioned (Foucault, 1972). The material from ancient Egypt consulted in this book testifies to these qualities, but no doubt such qualities are also to be found in contemporary contexts. As canonized cultural texts, accounting inscriptions are performative in the generic, or the effective, or the strong forms of performativity identified by MacKenzie (2006b).

Some connections were made in Chapter 3 between accounting and the notion of an archive in the sense advocated by Foucault (1968) that views it not simply as a collection of texts or documents, but rather as an ensemble of discursive cultural events with a monumental status. Inscribed accounts are in the first instance a repository of culture; they *construct* and *communicate* fundamental cultural memories of society. And as a repository of cultural memory and a conscious archive accounting inscriptions provide significant solace to members of society which absorbs uncertainty on their behalf and reassures them that order prevails. It is argued here that as a conscious archive, accounting inscriptions percolate through the public consciousness of a society. Like all numbers, numbers produced by the technologies of accounting have a referential character which connects them together not only in a particular era but across time (Macintosh, Shearer, Thornton, and Welker, 2000). Further, accounting inscriptions are more than a set of numbers: as suggested earlier, ancient Egyptian texts also include some context of each entry anchored in time and space, and thus they provide some cultural account of a society at a particular time. Thus, inscribed accounts of the activities of, for example, army bakeries, mining expeditions, taxation, royal workshops and projects, and even private exchange, farming, or the household, are all conscious archives and canonized cultural texts whose meanings go beyond the numbers they contain and seemingly mundane day-to-day activities to provide a repository of the cultural heritage of the ancient Egyptian society that provides an account of how these domains were organized, ordered, and negotiated. Such an archive is a storage of social resources that can be mobilized at later dates (Vollmer, 2007: 582). Thus, the archive or cultural memory travels across time and space and stands as an indelible edifice of the triumph of order over chaos. Paraphrasing de Botton (2007: 180–182) when he talks of orderly architecture, this archive helps in providing people with "a feeling of having tamed the unpredictabilities to which [they] are subject and, in a symbolic way, acquired over a disturbingly unknowable future". The accounts produced by the scribes ancient or modern are a dynamic set of inscriptions and this dynamism is made possible by the qualities of accounting as inscriptions that exist in the world.

But what is particularly special about a conscious archive is its connective (Assmann, 2006) quality; the fact that it bridges the gaps in time and space that separate people. This connectivity is born out of the understanding, alluded to earlier, that in the first instance accounting inscriptions are a form of communication. As a text, the accounting archive is retrieved communication; as myth, accounting inscriptions are a form of message or communication; as a sign, accounting communicates a particular message concerning the relationship, that is, the global signification, between the signifier and the signified; and as temporal and spatial ordering device the contents of accounting inscriptions travel across time and space. This characteristic of the accounting archive as a form of communication, or a message that ultimately generates a powerful memory or connectivity in society has barely been researched and requires further scholarly enquiry.

We have seen that in the case of ancient Egypt, it was not unusual to encounter entries of different types of objects with different ways of quantifying and valuing them existing side by side. This apparent chaos in the accounting archive acts as a strong reminder that chaos "[shimmers] through the veil of order" (ibid: 186), but also importantly that it is reconstrued as orderly via the inter-translatability of the different monies of accounts used to value different objects into a single common denominator. The individual objects in their singularity are brought into concord with all other objects via the money of account families (e.g., the *deben*; the *khar*) which makes possible their additivity.

Hall (1973: 30) once said: "Culture hides much more than it reveals, and strangely enough what it hides, it hides most effectively from its own participants." Could this also be said of accounting inscriptions as an archive? In several places of this book the notion of accounting endowing certain things with visibility but not others was mentioned. So, could what is not been rendered visible in the accounting archive elude not only those whose performance is assessed by its metrics but also those who design and implement these systems, perhaps even including those who inscribe the accounts? And what mechanisms are there for a society to reach for and render visible those things that the accounting archive successfully hides? More work exploring the connection between accounting, the archive, sacred texts, and canonized texts can produce more exciting insights into the possibility of theorizing accounting as performative texts.

BRINGING THE BOOK TO A CLOSE?

> "O that I might find unknown phrases, strange expressions, new speech not yet uttered, free of repetitions, not sayings such as the ancestors used." (The Author of the *Lamentations of Khakheperreseneb*, translated by Assmann, 2002: 171)

> "Imitation is prevalent in human history." (Ibn Khaldun, Al-Muqadema [1379/1991], my translation)

Like the author of the *Lamentations of Khakheperreseneb*, I had the aspiration to write an original book, to produce as much as possible "new speech, not yet uttered, free of repetition", but in the end the reader may be of the view that I have succumbed to the prevalence of imitation and repetition to which Ibn Khaldun alludes.

The aim of writing this book was to draw on accounting inscriptions from ancient Egypt in order to theorize the relationship between accounting and order by exploring a number of themes, all connected to how accounting can function as a performative technology that constructs and underpins order. These themes included accounting as a ritual, a myth, a sign system, a signifier, a time-ordering device, a spatial-ordering device, a means of exercising violence, and an archive of connective cultural memory. Such a thesis could of course have been developed at an entirely theoretical level. Rather than pursue this possibility, the approach followed in this book was to mobilize both theoretical ideas and 'empirical' material to articulate and develop the relationship between accounting and order. But then there were still choices that had to be made concerning the kind of empirical material to be consulted.

I have opted to focus on accounting *as inscriptions* because the line dividing practice from inscriptions is rather thin for a number of inter-related reasons. First, archival material *is* inscriptions, and we can never be sure how much of the inscribed material corresponds to how the inscriptions were put into 'practice', however the latter may be defined. Second, if the material for study is collected through interviews, then what the researcher gathers is a set of utterances that are subsequently inscribed into publication outlets, and again this may not map onto understandings of what 'practice' entails. Third, even in the case of ethnographic research, where the researcher is supposed to have been immersed into organizational practice, culture, and way of life, ultimately it is the researcher's inscribed notes from the field and their reconstruction into an academic narrative that tell the 'story' of practice. In stating these arguments, it is not the intention to imply that 'practice' only exists in discourse. Rather, the point is that our engagement with 'practice' occurs via discourse, hence the bracketing of the former term.

This intentional focus upon accounting inscriptions has opened up important opportunities to reflect upon some of the attributes of inscriptions. To begin with, it has opened up the possibility of emphasizing the power of accounting inscriptions as a constitutive technology that constructs, rather than faithfully represents, objects and subjects. Further, as indicated in the opening chapter of this book, focusing on accounting inscriptions has facilitated making use of inscriptions from ancient Egypt to pursue the project of theorizing the performativity of accounting and how this constitutes and underpins different forms of order. This made it possible to bring to bear on the arguments developed in this book a sampling, modest as it may be, of the innovative capabilities of ancient peoples. Ancient history inscriptions offer a rich vein of material that has the potential to enhance our understanding of many phenomena. This is especially pertinent in the case of ancient Egypt, almost invariably constructed and presented through contemporary Western discourse as the ‘exotic’ remote Other that inspires our imagination and dreams but hardly engages our intellectual faculties. Moreover, it is hoped that by drawing on ancient historical material this book offers a small contribution towards the much larger aspiration of seeking to encourage scholars to give more attention to archival material.

The ancient Egyptian inscriptions are suggestive of a notion of order, whether cosmic, worldly (social, political, and economic), or in the netherworld, that emphasizes non-random organization into patterns (Alexander, 1982). While being responsive to Alexander’s (ibid: 90) call to engage with a “thoroughly generic conceptualization” of order, whereby action and order are decoupled, a key argument of this book is that in ancient Egypt accounting functioned as a powerful performative technology that created and sustained order, and worked on individuals and groups to bring order and action closer together. Although order in ancient Egypt could be conceptualized in terms of “the probability that individuals will act in a patterned fashion, not to the certainty that any individual will do so” (Alexander, ibid: 105), the intervention of accounting technologies in the cosmic, religious, social and economic domains of ancient Egypt worked to enhance the probability of congruent action occurring. At the worldly level, accounting visualized the activities and achievements of various sectors of society and provided an incentive for individuals to demonstrate that their actions were consistent with the requisite qualities of social and economic order. Maintaining this order in turn enhanced the chances of preserving the political *status quo*, as social and economic stability buttressed the claim of the Pharaoh to kingship as his undisputed, heavenly right. At the cosmic level, accounting for offerings served to emphasize a notion of reciprocity (although not one based on a measure-for-measure) that underpinned the fragile equilibrium in the cosmos and reasserted the Pharaoh’s divine right to kingship, because he alone possessed the privilege of making offerings to the gods on behalf of his subjects. In this sense, accounting functioned just like any ritual that "creates harmonious worlds with ranked and ordered populations playing their appointed parts" (Douglas, 2002: 90).

This chapter has sought to forge a number of explicit connections between accounting and order. It has been argued that accounting is a technology that is fundamental to the construction and preservation of order in organizations and society, the foundations on which religious, socioeconomic, and political structures are based. In ancient Egypt, accounting functioned as ritual and myth, and as spatial and temporal ordering devices that overlaid meanings of order upon the administration of time and social space and produced a structured society (Bauman, 1993). Unlike the scenario that Giddens (1991) develops which emphasizes the boundedness of the modern nation-state exhibiting the separation of space and time, what we encounter in ancient Egypt is a context where space and time were intertwined, and where accounting rituals played a key part in underpinning such interconnection as part of the created reality of an ordered society.

Perhaps once the ramifications of accounting explored in this book have been developed further, we may become more receptive to suggestions that would otherwise pass for fanciful assertions. For example, we may begin to explore the extent to which the documented dominance of numbers in Western societies as a means of governing life (Rose, 1991; Chua, 1986; Porter, 1995; Power, 1997; Boyle, 2000) is culturally specific to the West, or instead is the latest manifestation of a broader and far reaching tendency that transcends cultures and times. Also, Cleverly's (1973) suggestion that accounting functions as a form of religious ceremony—a rain dance—can be taken more seriously and its implications assessed more fully. Similarly, the parallels drawn by Gambling (1977) between accounting and witchcraft can begin to be subjected to greater scrutiny in order to gain greater appreciation of the roles that accounting plays in these contexts than has hitherto been possible.

For example, the rationalization offered by Gambling (1977) for accounting as a means of rendering possible the accommodation of 'awkward facts' or dealing with uncertainty can be extended to incorporate the construction and perpetuation of order as an organizing framework in society. Rather than focusing upon examining the role of accounting in accommodating 'awkward facts', the question may be one of exploring accounting's ability to constitute such phenomena as knowable, manageable, and orderable through its performative rituals. Similarly, the possible link between accounting and the supernatural, or cosmic, should be explored more fully. When Gambling (ibid: 150) argues "As it stands, accounting is not a matter of the supernatural, but seems to have something of political activity about it, all be it with a small p!", this statement may be taken as one that underpins a restrictive view of accounting. What has been argued in this book is that, at least in the context of ancient Egypt, a symbiotic relationship between the cosmic/supernatural and accounting was forged to construct notions of cosmic order which directly impacted the meaning of religious, social, political, and economic order. These themes were evident in the myths of Creation, Osiris, the Contendings of Horus and Seth, and the Day of Judgment.

Through the itemization, enumeration, and valuation of objects and subjects, accounting fixes, regularizes, and orders these objects and subjects, emphasizes their interconnections, and anchors their locations in time and space. Further, just because linkages between accounting and the supernatural could be forged, this should not be taken to imply that as a discipline, accounting is not susceptible to systematic and scholarly enquiry. Again, to quote Gambling (1985: 421): "we do have an underdeveloped science [accounting] here, which is underdeveloped because it is almost impossible to research it! This ought not to surprise anyone, because it must be a very odd sort of science, which deals with social reactions to the uncertainties of the universe." Contra Gambling, rather than viewing accounting as an "underdeveloped science . . . that is almost impossible to research", it is precisely these seemingly daunting challenges that carve out new and very exciting research agendas once a connection is made between accounting and "the uncertainties of the universe".

To bring my role in writing this book to a close, I am reminded of my limitations as an author and also of the power bestowed by the written text upon the reader. These two themes are brilliantly captured by Barthes (1977: 146); as an author my power is to "mix writings, to counter the ones with the others" whereas the reader "is the space on which all the quotations that make up a writing are inscribed without any of them being lost; a text's unity lies not in its origin but in its destination" (ibid: 148), and it is the reader as the destination of this book that ultimately has the say as to whether or not this work has been a worthwhile undertaking.

Notes

NOTES TO CHAPTER 2

1. BCE: Before the Common Era
2. The term ‘Dynasty’ should be interpreted here with caution. As Janssen (1978: 213) has suggested, this term is used in Egyptology in a special technical sense “merely to indicate a series of rulers with, though in some instances without, genealogical connections.”
3. Dynasty Zero has been inserted by Egyptologists following recent discoveries of artefacts which belong to the Dynastic era but which also precede anything dateable to the First Dynasty.
4. There are varying dates suggested by Egyptologists for ancient Egyptian Dynasties. To maintain consistency throughout this book the dating is based on Baines and Màlek (1980: 36–37).
5. It has been pointed out that writing, account record-keeping, and some elements of administration were already developed during late Predynastic times (Postgate et al., 1995). There is also evidence of some official titles designating specific tasks dating to Predynastic times, such as *nbi,* which relates to responsibility for managing the royal domains (Wilkinson, 1999: 112). This has led Hoffman (1984: 348) to suggest that the system of government during the first two dynasties at least “kept many of its Predynastic trappings.” In the early Dynastic period the composition of the royal court remained based on family ties and bonds, just as in Predynastic times (ibid: 325).
6. Ancient Egyptian did not have vowels. To make reading easier, Egyptologists tend to insert vowels when translitrating ancient Egyptian, so that the word “pr-sn” would be read as “per-sen”.
7. The argument concerning scribal schools has to be interpreted with extreme caution. So far, no evidence of school buildings from ancient Egypt has been uncovered; only some allusion in inscriptions.

NOTES TO CHAPTER 3

1. Recent studies of globalization have tended to focus upon the connections between societal order and global/world order, whereby order is created through the construction of “more or less coherent meaning complex of restoring an objective global value-basis in terms of which societies are to operate” (Robertson, 1992: 73). Giddens (1991: 14) argues that the problem of order should be viewed as “the conditions under which time and space are organized so as to connect presence and absence . . . [while] modern societies (nation-states), in some respects at any rate, have a clearly defined

boundedness . . . virtually no premodern societies were as clearly bounded as modern nation-states." This notion of boundedness is linked in Giddens' thinking to the global separation of time and space, and their re-combining and standardization so as to appropriate a "unitary past . . . which is world-wide [and] forms a genuinely world-historical framework of action and experience" (ibid: 21).

2. In an earlier study, Gallhofer and Haslam (1991) show how accounting can generate consequences that challenge and disturb the underlying political order.

NOTES TO CHAPTER 4

1. This expression is borrowed from Goethe's Faust, cited in Berman (1985: 46).
2. Amun was one of the main ancient Egyptian gods; the others are Re and Ptah. Whoever of these gods was deemed dominant in a particular era was also equated with the Atum, the Creator god.
3. For example, in a list of temple wage distribution, dating from the Middle Kingdom, the chief priest and temple director was allocated 16 2/3 loaves of bread, 8 1/3 jugs of Sed beer, and 27 2/3 jugs of Hepnew beer. In contrast, a temple worker was allocated ½ + 1/18 loaves of bread, ¼ + 1/36 jugs of Sed beer, and 2/3 + ¼ + 1/100 jugs of Hepnew beer (Borchardt, 1902/1903). The difference in these allocations visualized the difference in rank between these two individuals. Notice also that the Horus Eye fractions are used in the majority of these numbers, thereby divinity associated with the Eye of Horus was always present in even the most mundane accounting entries.

NOTES FOR CHAPTER 5

1. The *deben* was equivalent to approximately 91 grams of the particular metal to which it was related: gold, silver, or copper (Janssen, 1975a: 101–102).
2. I am grateful to Ben Haring for bringing this image to my attention and also for clarifying some ambiguities about the text in private correspondences dated 30 August and 1 September 2010.
3. The *hekat* is a member of a family of capacity measures used in ancient Egypt which included also the *Khar*, the *oipe* and the *hin*. The *Khar* was 76.88 litres, the *oipe* one quarter of the *Khar* (19.22 litres), and the *hekat* ¼ of the *oipe* (4.8 litres). The *hin* (0.48 litres) was 1/160 of the *khar* (see Janssen, 1975a: 108–111).
4. I am grateful to Ben Haring for clarifying these differences to me in a private correspondence dated 13 May 2009.
5. Unfortunately the scenes have been damaged in many parts, rendering their reproduction here problematical (see Haring, 1997).
6. Baines (1983: 584) suggests that in ancient Egypt "in most periods not more than one percent of the population were literate." Although others (e.g., Janssen, 1992: 80) have challenged his estimates for being too conservative, still only a very small percentage of the population was literate, even by the most generous estimates. Nonetheless, ancient Egypt was a literate society as inscribed records were essential in all walks of life.
7. It is instructive to note that even in recent times, bread continues to have special significance in Egypt. Bread prices have not increased significantly over the last several decades (in contrast to other foodstuffs). When

President Sadat's government put bread prices up in the 1970s, massive, violent riots flared up because this was taken by the masses as a threat to their survival and, as a consequence, the government was forced to backdown. For ancient and contemporary Egyptians alike, bread always signifies life-giving power.

8. Egyptian (Hieroglyphic) writing did not make use of vowels; hence, for example, cyclical time would be written as *nhh* but Egyptologists insert vowels (*neheh*) to make the transliteration of Hieroglyphics easier to read.
9. Baines (1983: 575), referring to an ancient Egyptian story, states: "In the Egyptian story of the Two Brothers (*c.* 1200 B.C.) a handsome cowherd, asked by the evil woman who wishes to seduce him how much he is carrying, replies, 'Emmer: 3 sacks; Barley: 2 sacks; Total: 5' . . . People may not really come to talk like this, but the influence of tabular presentation on written material involving numbers is profound."

NOTES FOR CHAPTER 6

1. Despite the prevalence of taxes in national economies across time and space, at least for some tax is taken to imply a violation of individual liberty by the state and a form of oppression and theft (e.g., Friedman, 1970; Spooner, 1973).
2. The deben was a money of account based on weight and during the New Kingdom it corresponded to about 91 grams of gold, silver, or copper (Janssen, 1975a: 101). The men container was a capacity measure used for valuable liquids or items, and rectangular lengths were used for measuring textiles.
3. One of the difficulties faced in interpreting these texts is that the ancient scribes used many of the terms relating to taxation (see earlier) both in their specific technical meanings as well as in a very general sense even in the same text. Hence, it is quite possible for the dues listed against the officials and scribes noted above to be referring to amounts they were expected to deliver (as dues collected from others for the state) rather than necessarily being direct dues imposed on them. Janssen (1975b: 176) has argued that "It is true that for the sake of equal rights and obligations civil servants of modern states, though receiving their wages from the government, are liable to taxation, but this would be unlikely in ancient Egypt." The implication here being that state officials, including scribes, did not have to pay taxes maybe because the payment of their wages by the state obviated the need to tax them as payments could be made net of taxes. An alternative explanation is that state officials such as scribes were exempt from any taxes because tax was levied only on physical produce. This privilege was noted in several texts, and contrasted against the misery inflicted upon others, such as cultivators, who had to pay tax (see Chapter 2). For example, a teacher offers the following advice to his pupil (Papyrus Anastasi V, Caminos, 1954: 247): "I am told that you have abandoned writing and whirl around in pleasures, that you have applied yourself to working in the field and have turned your back upon the god's words. . . . (as to the) scribe, he is a controller of everyone. He who works in writing is not taxed, he has no dues (to pay)." See also Chapter 2.
4. Janssen (1975b: 141–147) argues that 7½ percent is perhaps too low to be considered as tax and hinted that this rate may have represented instead temple revenues; this however remains a conjecture.
5. Janssen (1975b: 143) contends that these could represent the net revenues of the plot; i.e., total yield less costs.

6. Given that the total deficit I calculated is 5,724, the figure of 5,004 leaves 720 sacks to account for. It is possible that this amount represented a genuine balance to be delivered later rather than being used by the culprits for their own purposes. Alternatively, this amount may be included in the 1000 sacks referred to at the end of the Papyrus as follows: 1000 sacks less 100 exacted in year 4 of the reign of Pharaoh Ramesses III gives 900 sacks, less 180 sacks stolen gives 720 sacks.
7. Khanto-land is the same as khato-land.
8. L.p.h. stands for 'may he live, be prosperous, and happy'.
9. For example, in the New Kingdom 1 sniw = 5 deben; 1 hin = 1 deben; 1 khar = 2 deben (see Janssen, 1975a).

NOTES TO CHAPTER 8

1. A modern parallel for the use of a standard measurement scale in an unmonetized economy is beaver pelts used by the early traders of the Hudson Bay Company (Spraakman and Wilkie, 2000).
2. The ancient Egyptian word for 'revenues' has a variety of additional meanings, including 'rations', 'provisions', and 'foods'. Later on in the daily summary accounts the same word was used in these latter senses; see Spalinger (1986: 228–230).
3. Spalinger (1985b: 15) translates this line as "What he gave to them on account of it—1 hk>t [*hekat*] from the first fruits of the harvest of every field of the nomarchal estate."

NOTES TO CHAPTER 9

1. Hathor was a cow Goddess symbolizing fertility and the sky (Watterson, 1996: 113).
2. One 100 square cubits = 27.565 square metres; see Clagett (1999: 12).
3. One stat, or *aroura*, equals 2,735 square metres, or about two-thirds of one acre (Clagett, 1999: 12).
4. The Abusir Papyri, published by Posener-Kriéger and Cenival (1968), and translated into French by Posener-Kriéger (1976), were found in two bundles: one in 1893 by clandestine excavators at Abusir and the other in 1907 by the Deutsche Orientgesellschaft (the German Oriental Centre) under the direction of Borchardt. More discoveries of monuments and papyri have since been made at the same site by the Czechoslovak Institute of Egyptology under the direction of Mirsolav Verner, but these are yet to be published (Posener-Kriéger, 1997: 17). Stephen Quirke has indicated to me in a private communication that the significant contributions of Verner's discoveries relate to chronology rather than to accounting and administrative matters.
5. The only surviving papyri found that could have possibly predated the Abusir Papyri, by between 80 and 100 years, are those of Gebelein, but they have not been published yet and their dating is still debated by Egyptologists.
6. See Posener-Kriéger (1979: 136), but Gardiner (1964: 435) and Baines and Málek (1980) as shown earlier assign twenty years to his reign.
7. The funerary temple had an entrance hall, vestibule, court, chapel, several halls for such things as offerings and treasury, terrace, granaries, and various annexes. While I have no information about its precise dimensions, mea-

sures of the main parts of the funerary temple indicated by Posener-Kriéger suggest that it was approximately 80 metres long by 50 metres wide.

8. Posener-Kriéger (1979: 148) estimates that one cow could feed a thousand people. Even if this is an over-estimation, there is little doubt that funerary temples, such as that of Néferirkarê, supported a large number of dependants.
9. When Kemp mentions 'double-entry' I assume that he means 'double-inscription' of the items listed.
10. The alternative use of red and black ink in the Abusir Papyri has the other welcomed, yet most likely unanticipated, effect of making the inscriptions more intelligible to present day scholars (see Posener-Kriéger and Cenival, 1968: xviii).
11. Not all of the Abusir accounts exhibit such large disparities between amounts that should have been delivered and actual deliveries; there are many accounts where both quantities are almost exactly equal. One example is table 35B (Posener-Kriéger, 1976: 282–283; see also table 37: 280–281) where various quantities of different types of bread and drinks to be delivered daily were actually delivered on time with the exception of only two cakes.
12. Before we credit the Abusir scribes with all these technical developments, it is worth noting that the scribal tradition had already been well established and canonized by that time through the educational and training practices developed in the Old Kingdom (see Ezzamel, 1994; also Chapters 2 and 3 of this book). Posener-Kriéger (1979: 137) makes a similar, but more specific, point: "The accounts from Gebelein, organised in exactly the same way as the Abusir documents, show us that the scribes of the Néferirkarê temple had not invented anything, but that we have here an everyday kind of document, which is the fruits of experience in administrative work."
13. I am grateful to both Stephen Quirke and Anthony Spalinger for suggesting this to me.

NOTES TO CHAPTER 10

1. There have been alternative readings of the numbers in this table, particularly by Mueller (1975: 252) who reads the numbers of men as 105, 120, 44, and 151 respectively. While such differences in reading may have an impact upon deciding the size of each division, the concern here is with provisions or rations per class of workmen which are unaffected by alternative readings because they are stated per head.
2. It is clear that all these titles are administrative rather than military. Indeed, it has been claimed that there is little, or no, evidence to suggest that in the Middle Kingdom any military personnel accompanied the expeditions to protect them while en-route to Sinai (Gardiner, Peet, and Černý, 1955: 16–17). However, the inscriptions of Wadi Hammamat contain reference to the presence of military men as guardsmen, policemen, infantry and naval soldiers under the command of senior officers (Breasted, 1906/1988; Goyon, 1957).
3. It is evident from this inscription that Breasted uses the word "army" to describe the workforce of the expedition, given the listing of the professions that follows that word, rather than a strict military force.
4. I am grateful to Ben Haring for exploring this issue with me during a meeting in Leiden, October 2010.

NOTES TO CHAPTER 11

1. Some of the texts use the term ‘crew’ to designate a group of workers of an equivalent number to that I ascribe here to a ‘division’ (e.g., Simpson, 1963, 1965, 1969, 1986; Mueller 1975). I have followed the definitions used by Roth (1991).
2. I am grateful to Stephen Quirke for bringing this fragment to my attention and for translating its content for me.
3. It was in the Middle Kingdom that the military rank ‘general’ was used for the first time in a non-military context in the Sinai Inscriptions to describe the senior foremen of divisions, presumably of military troops used on work (in this case mining) expeditions (see Faulkner, 1953: 37–38).
4. In Papyrus Reisner II, Simpson (1965: 31) translated line 16 of this account as “equalling debited to him units 100 ½”. However, in Papyrus Reisner III, Simpson (1969: 10) corrected “units 100 ½” to read as “*deben* 100 ½”.
5. This figure is a translation of the German translation of the original ancient Egyptian account by Borchardt made for me by Ian Wilson. I have checked Wilson’s translation against another made by Gillings (1978: 125) and found the two to coincide. However, I make use of Wilson’s translation here because it involves the whole of Borchardt’s paper and not only the account reproduced here.
6. In commenting on the period to which the wages relate, Borchardt (ibid: 117) suggests that the account is a record of the monthly distribution of receipts. If this were the case, then at least some of the entries that show very low rations would require additional explanation, for they would not suffice to support one person, let alone his family, for a month. For example, the temple worker listed at the very end received only 5/9 of one loaf of bread, which if covers a one month period would make no sense. Gardiner (1956: 119) insists that “Borchardt failed to see that the whole account is concerned, from start to finish, with daily receipts and payments” which is supported by the text itself and the revenues of similar temples.
7. Simpson (1963: 430) suggests that the real beginning of the period may have been three days after the stated date; this would allow for the workmen to finish work on this project before moving on to the next project dated in Papyrus Reisner I.

NOTES TO CHAPTER 12

1. For example, problem 71 in the *Rhind Mathematical Papyrus* deals with the conversion of grain into beer by utilising the *psw* (Spalinger, 1988; Robins and Shute, 1990). The problem indicates that a full jug of beer had a *psw* of 2 and hence when full was the product of half a *hekat* of grain. A quarter of the jug is poured off and replaced with water to dilute the mixture leading to a new *psw* of 8/3 <1/2—(1/2 X ¼) = 3/8, the inverse of which is 8/3>.
2. For example, in each of the problems 72, 73, and 75 the trainee scribe is presented with a number of loaves of a given *psw* and asked to provide the equivalent number of loaves of a different *psw*.
3. The letters l.p.h. stand for ‘long may he live, be prosperous and healthy’.
4. Following Spalinger (1986b), these aggregations were made by me to account for the total *hekats*. The *psw* for both barley and emmer is the same for the first three types of bread but is different for the sweet *psn* bread where the total of 50 loaves was divided by Spalinger between barley and emmer equally and the *psw*, 20 and 30, were applied respectively.

5. This is missing in the first part but has been inferred from the second part of the account by Egyptologists (see Spalinger, 1986a: 316).
6. Spalinger (1986a: 316) has shown that the third line in the first part of the account referring to small and large breads is a means of providing equivalence to 21,600 *deben*.
7. This equivalence has led Spalinger (1986a: 316) to suggest that the figure 392,325 *deben* in the first part of the account should be revised downwards by 10 *deben*.
8. It is tempting to attempt to reconcile all these four types of account, but this may be difficult. The daily bread produce of the bakery is difficult to match with the entries recorded in the storehouse daily receipts, although tracing them is possible in some cases. The aggregate number of emmer sacks delivered to the bakery under the responsibility of Neferhotep, the Mayer of Memphis, when added correctly comes to 1600 ¼ (rather than the 1600 stated as the total at the end of the account) which is tantalisingly close to the 1601 ¼ listed in both parts of the aggregate summary account of bread receipts. Similarly, the grand total of *deben* equivalent bread receipts recorded in the storehouse daily bread receipt account is 389,059 which is again fairly close to the figures listed in the aggregate account of bread receipts of 392,325 *deben* and 392,306 *deben*. Given the overall structure of the cycle of accounting for baking described above, it would be very surprising if the ancient scribes did not reconcile all four types of account, even though such reconciliation may be difficult for us to perform today, particularly if some entries are damaged or missing.
9. So ingrained these conversion and equivalence measures were that their usage extended beyond conversion activities. For example, we encounter the use of the *psw*, the baking ratio, in endowment. On day 8, 3rd month of Akhet, year 9 of the reign of Ramesses II, the Pharaoh issued a decree for the founding of offerings for a statue in the Temple of Hathor (Kitchen, 1996: 195–196). The Pharaoh ordered specific allocations of different types of cakes, bread loaves, and beer, with the appropriate *psw* for each type, see also Chapter 5.
10. This was a religious revolution, engineered by Akhenaten, which abolished all previous gods who were denominated by the god Amon, and established a new religious order through the worship of only one god, Aton, the sun disk.
11. I am particularly grateful to Stephen Quirke for the exchanges we had on this issue over numerous meetings. Responsibility for any errors in judgment or interpretation, however, remains entirely my own.

NOTES TO CHAPTER 13

1. Three translations of the Hekanakhte Papers are available: James (1962), Baer (1963), and Goedicke (1984). Moreover, Wente (1990) translated the letters only. There are disagreements in the reading of some of the details, with the translations offered by James, Baer, and Wente being more similar. I rely on the translation by James (1962) because it is considered the most authoritative by Egyptologists. Wherever appropriate, reference will be made to major differences in the translations.
2. The translation made by James (1962: 13–14) of this account used here varies significantly from that made by Goedicke (1984: 43–45), particularly with respect to the numbers of *arouras* of land. The figures translated by James are not supported by the calculations (see later).

3. In some parts of the account reconciliation of numbers is easy. For example, the figure of 41.25 *hekat* on line 47 is the aggregate of the entries on lines 39–44; the grand total of 74.25 *khar* is the aggregate of 33 and 41.25 figures on line 47; and the 10.5 *khar* total on line on line 54 is the summation of the entries on lines 49–53.
4. Some may argue that if the figures cannot be reconciled, how could they be interpreted meaningfully (Janssen, 2005). However, this view is problematic for several reasons. First, those who inscribed these accounts and letters would have kept them in good condition so that the entries would have been clear. Second, part of the reason for the disagreement in reading the text is that they were written in the more cursive, Hieratic form which would have been easily readable by the ancient scribes. Third, as argued elsewhere in the book, even when there are some incorrect entries, the relevance of other entries and the account in general should not be dismissed.
5. Goedicke (1984: 112) reads 2007 on line 15 as "2000 (bundles and 7 (measures)". He also reads line 11 as 221" not "2.1".
6. Goedicke (1984: 88) notes that the entry in line 10 (Sau/Zau) is not perfectly legible and could be read as 4 *hekat* which means that all the figures in lines 1–10 would add up to the 52 *hekat* stated as a sub-total (this assumes away the entry on line 11 as Goedicke suggests).
7. Baer's calculation is based on Papyrus Bulaq 12 which shows a price of 16 *hekat* as 1/60 *deben* of silver. Silver was valued at 100 times the price of copper. Converting 24 *deben* copper into silver gives 24 *deben* silver multiplied by 16 *hekat* and divided by 1/60 gives 230.4 *hekat* of emmer for 24 *deben* copper.

NOTES TO CHAPTER 14

1. Egyptian has the word 'silver' which assumed the meaning of 'money' as we use it today (Haring, 2009: 6). I am grateful to Ben Haring for clarifying this point.
2. Derrida (ibid: 319) continues 'But it is only in French that the word *argent* immediately communicates, at least in what ties the phantasm or the imaginary to the linguistic signifier, that which associates *argent* as monetary sign of value with the precious metal, with the sensual and brilliant substance out of which coins or jewellery have been made.' Interestingly, ancient Egyptian matched this idiomatic quality of the French language (see footnote 1).
3. Because of this, it is possible to calculate values for these monies relative to each other. Thus, although relative prices of different monies would have exhibited some fluctuation over long periods of time, in general 1 *sniw* = 5 *deben*; 1 *hin* = 1 *deben*; 1 *khar* = 2 *deben* (see Jansen, 1975a: 101–110).
4. In contrast to the claims of Bloch and Parry (see previous), William Petty (1899) warned against the use of money as a universal equivalent when considering how labour and land should be valued. He viewed the usefulness of money as a measure of value to be compromised by its role as a repository of wealth. Given the fluctuations in the value of silver in line with its relative scarcity and quality (fineness), he could not see how it could be used to value something else. He suggested instead that labour and land in themselves should be used as measures of value because they seemed like 'natural denominations'.

NOTES TO CHAPTER 15

1. Part of the discussion in this sub-section draws on Carmona, Ezzamel, and Gutiérrez (2004).
2. An example of this risk is evident in the Miller and Napier's paper; because of their concern with "calculation" they do not provide a definition of "what counts as accounting" (ibid: 631). They suggest that, quoting Power (1992: 485), "not all forms of calculation are accounting; not all forms of quantification are monetarized" (ibid: 632), which, although I agree with, is unhelpful because it still falls short of stating 'what counts as accounting'.
3. For Meyer (1986: 350): 'The key issue, of course, is monetarization, with its two aspects: securing integration of an element into definite myths of means-ends relations, and the attachment of the element into one or another entity given reality in the value system defining existence.'

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